DOCUMENT RESUME

ED 078 192 VT 020 386

AUTHOR	Senier, John; Enderlein, Thomas E.
TITLE	A Supply-Demand Model for Vocational-Education Planners: Post-Secondary Instructional Program/Occupational Matrix. Phase 2. Report Number 1. Vocational-Technical Research Report.
INSTITUTION	Pennsylvania State Univ., University Park. Dept. of Vocational Education.
SPONS AGENCY	Pennsylvania Research Coordinating Unit for Vocational Education, Harrisburg.
PUB DATE	Mar 73
NOTE	160p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	*Educational Planning; *Instructional Programs; Item Sampling; Labor Force; Labor Force Nonparticipants; Labor Supply; Manpower Needs; *Models; Occupational Surveys; Occupations; *Post Secondary Education; *Program Planning; Vocational Education
IDENTIFIERS	Supply Demand Model

ABSTRACT

As part of a larger study to develop a Supply/Demand Model for Vocational Education Planners, this phase of the study was concerned with devising effective methods of providing program planners and administrators with current information relating to graduates and what they do upon completion of their programs. Using basic data obtained from questionnaire responses from graduates of Pennsylvania's public community colleges, commonwealth campuses of Pennsylvania State University, and private and proprietary schools, instructional program/occupation matrices were developed. Included in the matrices is information on graduates who: (1) did not look for work after completing their training, (2) continued their education full-time, (3) continued their education part-time, (4) entered the military, (5) did not enter the labor force for other reasons, and (6) entered the labor force. Comparative analyses of data are given. (Author/SN)

FILMED FROM BEST AVAILABLE COPY

THE PENNSYLVANIA STATE UNIVERSITY
DEPARTMENT OF VOCATIONAL EDUCATION

A SUPPLY-DEMAND MODEL FOR VOCATIONAL-EDUCATION PLANNERS:

PHASE 2

REPORT NUMBER I

POST-SECONDARY INSTRUCTIONAL PROGRAM/OCCUPATIONAL MATRIX

JOHN SENIER

THOMAS E. ENDERLEIN

Pennsylvania Department of Education
Bureau of Vocational, Technical and Continuing Education
Research Coordinating Unit
State Project Number (19-2014)
Angelo C. Gillie, Sr., Principal Investigator

VOCATIONAL — TECHNICAL EDUCATION Research Report

MARCH, 1973

VT 020386

ED 078192

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

A SUPPLY-DEMAND MODEL FOR VOCATIONAL-EDUCATION PLANNERS:

PHASE 2

REPORT NUMBER 1

POST-SECONDARY INSTRUCTIONAL PROGRAM/OCCUPATIONAL MATRIX

John Senier
Research Assistant, RCU, PDE

Thomas E. Enderlein
Graduate Assistant

Department of Vocational Education
The Pennsylvania State University
University Park, Pennsylvania 16802

March, 1973

Pennsylvania Department of Education
Bureau of Vocational, Technical and Continuing Education
Research Coordinating Unit
State Project Number (19-2014)
Angelo C. Gillie, Sr., Principal Investigator

FOREWORD

This is the first report of the study entitled "A Supply/Demand Model for Vocational Education Planners: Phase 2." The Phase 1 Report ("A Supply/Demand Model for Vocational Education Planners"), which was published in July 1972, was concerned with the immediate after graduation plans of 164 vocational programs in the Pennsylvania secondary and area vocational schools.

In this study, basic data was first obtained from the VEMIS (Enninger) questionnaire. Graduates of the public community colleges, Commonwealth Campuses of The Pennsylvania State University and private-proprietary schools in the Commonwealth were included in this sample. The first step in this project was the categorization of data into 28 generic occupational groups. Present employment of graduates was then classified into the DOT standard titles.

Using the criterion of present employment of the graduates in conjunction with the postsecondary vocational programs from which they graduated, and "instructional program-occupational matrix" was developed for the three types of postsecondary institutions and the entire group as a whole. Using this matrix as a point of comparison, each generic vocational program (in terms of all postsecondary institutions and each type of institution as well) was analyzed in terms of the relationships between graduates and jobs entered.

The major objective for this part of the study is to provide program planners and administrators with current information relating to program graduates and what they do upon completion. It is hoped such information can serve as one of the important factors used in deciding upon inaugurating

new programs, expanding or contracting existing programs, in postsecondary vocational education.

Special credit is given to John Senier and Thomas Enderlein for the careful preparation of this document, and to James Slick for his role as Research Assistant of the project.

Angelo C. Gillie, Sr.
Professor of Vocational Education
Project Director

TABLE OF CONTENTS

	Page
FOREWORD	iii
OVERVIEW	1
REVIEW OF RELATED LITERATURE	4
METHODOLOGY	10
LIMITATIONS	12
RESULTS	14
A. Reasons for Not Entering the Labor Force	14
B. Rate of Unemployment for Graduates Who Entered the Labor Force	25
C. Instructional Program/Occupation Matrix	26
1. Automotive Programs	28
2. Aircraft Programs	31
3. Electrical Programs	35
4. Police Training	39
5. Drafting Programs	41
6. Welding/Cutting Program	46
7. Technical, Others	50
8. Engineering Technology	54
9. Automotive and Diesel Technology	59
10. Civil Technology	63
11. Electrical/Electronics Program	66
12. Drafting/Design Technology	70
13. Architect Technology Programs	74
14. Tool/Die Programs	76
15. Forestry Technology	80
16. Technology, Other	83
17. Data Processing Programs	87
18. Dental Programs	90
19. Nursing (Assoc. Degree) Program	92
20. Medical Programs, Other	94
21. Accountants/Bookkeeper Program	97
22. Business Data Processing Program	101
23. Secretarial Programs	105
24. Business Administration/Management Programs	108
25. Clerical, Other	112
26. Apparel and Accessories Program	115
27. Marketing/Retail/Finance Program	118
28. Other Programs	121
DISCUSSION	125
BIBLIOGRAPHY	127

Page

APPENDICES. 129
A. Course Code List Pa. 1971 Follow-up Postsec. Programs 130
B. Postsecondary Course Code List used in Supply/Demand Model. 132
C. Schools Participating in the Class of 1971 Postsecondary Follow-up Survey 133
D. Occupational Classification and Student Entry. 134
E. Sample: Follow-up Survey Form 147
F. Occupational Titles. 148

OVERVIEW

Although it has been recognized in recent years that there is a real need to train students for vocations which they can enter directly or shortly after leaving high school, the actual curriculum planning for such vocational programs, has, to a large extent been handicapped due to the fact that labor market information is limited. At present, the most reliable information on industry needs can be obtained from the various local offices of the Bureau of Employment Security, Pennsylvania Department of Labor and Industry. Unfortunately, because that Bureau has historically been primarily interested in present job openings and industrial growth rather than occupational growth, information from that Bureau is of limited value to vocational education planners. To overcome the problem of limited information, a number of efforts have been made by school districts and educational planners to conduct surveys of their local areas. However, industry surveys are costly, are open to question as to their accuracy and, all to often, industries cannot provide information on their needs beyond a two-year period.

In order to deal with the problem of supplying information on manpower needs for local areas, the Bureau of Labor Statistics, U. S. Department of Labor, developed a model for projecting manpower needs. In a modified form, this model was used to develop the occupational projections included in a study by Walter M. Arnold entitled, Vocational, Technical and Continuing Education in Pennsylvania: A Systems Approach to State-Local Program Planning, and in, Planning Vocational Education Programs in Pennsylvania: Guidelines for the Use of Labor Market Information, by Messrs. James F. McNamara and Stephen J. Franchak. However, field experience indicates that those occupational projections have certain limitations and need to be revised as they are based on 1960 census data.

Also, in an effort to evaluate if the various vocational programs are meeting the needs of a given labor market area, the Research Coordinating Unit for Vocational Education (RCU) has been gathering data since 1966. This data relates to the supply of occupationally trained graduates with less than a baccalaureate degree. The nine sources of trained graduates from which the RCU collects data are: Public Secondary Vocational and Technical Schools; Community Colleges; Private Trade and Technical Schools; Private Business Schools; State Trade and Technical Schools; Manpower Development and Training Programs; State Retraining Programs; Two-Year Programs in Four-Year Colleges, and Private Junior Colleges.

This information is a valuable addition to program planners and vocational education planners in Pennsylvania are now aware of the full extent of vocational education offered by the other training institutions. However, in an effort to combine the supply information with the projected demand for a given occupation, several difficulties were encountered including: a) at present, only scant information is available as to what occupations graduates enter; b) the percent that do not participate in the labor force due to entering the Armed Forces, continuing their education at the postsecondary or college level, and for other reasons (such as marriage, disability, etc.) is not taken into consideration. For this reason, past efforts to develop a Supply/Demand Model have been based on the assumption that all graduates trained for a particular occupation enter that occupation.

In an effort to develop occupational projections and to determine the actual supply from all training institutions so that a viable supply/demand model could be developed, the Department of Vocational

Education at The Pennsylvania State University, with funding from the Bureau of Vocational, Technical and Continuing Education, undertook a two-phase project. This project is designed to generate information on occupational growth in Pennsylvania and the 47 LMAs, to make a detailed determination as to what occupations graduates by programs from the various training institutions enter, and to evaluate the supply and demand in terms of a computer based systems approach.

This, the first report of the second phase of the Supply/Demand Model for Vocational Education Planners, details the results of the research which sought to determine the occupations entered by post-secondary vocational and technical school graduates. Furthermore, it describes the development of the Instructional Program/Occupational Matrix for adjusting future occupational supply from that source.

REVIEW OF RELATED LITERATURE

Introduction

The basic objective of this investigation was to determine what has happened to the graduates of Pennsylvania's postsecondary occupational programs in 1971.

A review of the related literature was conducted to identify printed material that contained relevant information for this study. Literature chosen to be reviewed was restricted to those studies that were concerned with identifying other endeavors that related to postsecondary supply and demand concerns.

Literature on Postsecondary Supply/Demand

Alden, et al., (1968) in a report prepared by the Appalachian Regional Commission Education Advisory Committee indicated a major concern with manpower needs of the region and current programs for occupational preparation. The authors of this report felt that improvement in this area would have a great economic and overall effect on the Appalachian region. The report states that employment trends based on supply/demand data needs to be made available for specific localities at the local level. It was felt that supply/demand data is necessary at the local level so that program planners can make more relevant decisions about local, state or regional school system programs and curricula.

The report suggests the following to aid in developing a relevant supply/demand matrix:

1. That actual employment data be classified by relevant industry classification.

2. That each occupation reported in the 1960 Census be related to the occupational educational category used by vocational education planners.

3. That employment in each of the relevant industrial classifications be related to vocational categories in order to arrive at an "employment ratio" for each of the industries; that is, vocational agriculture could train appropriate personnel for both the agriculture and forest industry.

4. That projections be based upon ratios derived from data secured from the same industries for desired years.

5. That estimations concerning programs be based on local geographic labor market areas. If these areas are either too small or large, these estimations would not be useful for planners. (Alden, et al., 1968, Appendix A, p4)

This report suggests the development of a relevant supply/demand model to assist planners in developing appropriate training programs. These programs would then provide the means whereby the maximum benefit from tax monies can be realized.

The Engineering Manpower Commission (1968) charged with the responsibility of making an analysis of the supply, demand and utilization of engineering and technical manpower, to make recommendations, conduct programs and develop reports concerning these aspects of engineering and technical manpower conducted a survey of graduates to evaluate trends in the placement and occupation of new engineering graduates.

This survey of the annual engineering and technology graduating class was reported as proving increasingly useful as a means of identifying trends in educational and occupational patterns as well as providing an indication of the placement prospects of new graduates.

The expected supply and demand matrix for junior college graduates through the decade of the 70's was analyzed in a report by Rosenthal, et al. (1970). It was based on the assumption that current supply patterns will continue and that there will be full employment and an

improved international climate. The report reviewed the supply of and the demand for junior college graduates and for selected occupations requiring junior college training for entry.

The projections presented in that report can be used as indicators of conditions that can be expected if current supply patterns continue. The analysis provides those concerned with educational planning information on prospective occupational imbalances so that informed decisions can be made to avert prospective supply/demand imbalances in the future. The report further points out that projected imbalances in the form of surplus do not necessarily mean unemployment, rather they mean that a worker trained specifically for an occupation would have to shift to other occupations to secure employment. If an imbalance between supply and demand exists, the result is that the trained manpower of the nation is not fully utilized. This information can provide information by which adjustments can be made to bring supply and demand into better balance thereby resulting in the maximum utilization of trained manpower and the increase in the production of goods and services.

Crum (1971) in his article points out that since vocational education is held accountable for its graduates, it must be responsive to the needs of the nation's labor force. To display this concern it must reflect enrollment increases in occupational areas where demands outreach the current supply. In order to do so, insight into local job needs in the form of manpower projections are useful and necessary. Crum cautions, however, that no one source can supply all necessary manpower projections. He states that a great deal more must be known about the validity and usefulness of manpower projections before attempts can be made to determine the implications for vocational education in terms of programs and facilities.

Goldstein (1971) cites the need for information in the areas of employment opportunities and manpower needs for effective vocational education program planning. In addition to estimates of annual openings in each occupation, another kind of information is needed; that is, data on the number of people currently being trained for each kind of job. He states that although national manpower projections are useful and may serve as a guide to educational planners nationally, additional work is needed to tabulate local educational statistics and from this develop local manpower projections. However, expansion of training in terms of numbers of students is not the only concern of educational planners, in some occupations, the content of the programs must be adjusted to meet the changing skill requirements of the world of work.

Tuttle, et al., (1971) in this article describes the Occupational Training Information System (OTIS) currently operating in the state of Oklahoma. Oklahoma is one of the few states that operates a statewide system that provides information for matching manpower supply and demand. OTIS provides information on supply and demand of less than professional occupations as the basis for improving decision-making throughout the manpower area. The authors state that quality program decisions cannot be made without full assessment of the interrelationship among programs. In other words, how do program decisions in one area change or affect the environment in other manpower training areas.

The supply and demand concept of OTIS places emphasis on product evaluation; that is, concern for the student and what the training does for him. The basic emphasis of the system was directed in the area of interlacing manpower supply and demand with other supporting systems. The design calls for yearly cycling of the system in order to provide

necessary and timely information to support decisions regarding program initiations and termination.

Senier, et al., (1972) in the first report of an anticipated series attempted to develop for Pennsylvania Vocational Education Planners an input/output matrix related to manpower supply and demand to adjust graduates in terms of the supply entering the labor force. The assumption for the development of this supply/demand matrix was that a graduate from a training institution does not necessarily enter the occupation for which he or she was trained. This report sought to determine what has happened to the students who graduated from the public secondary vocational programs in 1970. The question for which answers were sought were:

1. What percent of the graduates of the public secondary vocational programs did not enter the labor force and for what reasons?
2. What percent of the graduates of the public secondary vocational programs were unemployed by programs?
3. What occupations were entered by the public secondary vocational graduates compared to their secondary programs?

In addition, an attempt was also made to determine the differences, if any, among graduates by program for the Philadelphia Labor Market Area (LMA), Pittsburgh LMA and the remainder of the state.

This report concluded that 1970 graduates of secondary vocational programs experienced difficulties in finding jobs related to their training and that a large percent of these graduates sought further training on a full-time basis or entered the military service and therefore were not available for employment.

The literature reviewed is not intended to be comprehensive or exhaustive. This evidence supports the need for further investigation in the area of manpower supply and demand. As a result, it was decided

that instructional program/occupation matrices be developed for the graduates from Pennsylvania Community Colleges, The Pennsylvania State University branch campuses and from private proprietary schools. These matrices were designed so that a determination could be made for each of the three educational institutions as to:

1. the percent of the graduates by program who did not enter the labor force due to:

    a. not looking for work
    b. continuing their studies full-time at a college
    c. continuing their studies part-time at a college
    d. entering the military service
    e. not entering the labor force for some other reason

2. the percent of the graduates by program who were unemployed at the time of the survey

3. the percent of the graduates by program who found jobs related or unrelated to their training

A comparison was also made between institutions to determine which graduates by institution had greater success in finding work related to their program of study.

METHODOLOGY

The instructional program/occupation matrices which were developed for the community college graduates, The Pennsylvania State University branch campus graduates and the private proprietary school graduates are based on the "1971 Follow-Up of Postsecondary Graduates" study conducted by the Educational Systems Research Institute. That follow-up study included, among other things, the graduate's response as to what occupation they were presently employed in. The responses were evaluated in terms of their equivalence with the standard titles listed in the Dictionary of Occupational Titles. A determination was then made of the responses and the appropriate DOT occupational titles was substituted.[1] The substitutions were analyzed later for accuracy by two independent judges who had a thorough working knowledge of occupational classifications. In this way, every student response was evaluated and an appropriate code was applied which could later be merged with the existing computer tape which contained other relevant information.

Having accomplished this, a computer program was written which first sorted the data on the basis of the type of educational institution and program. Subsequent sorting was also done to determine:

1. employment full-time
2. employment part-time
3. unemployment
4. not looking for work
5. military
6. other
7. part-time college
8. full-time college
9. occupation employed in

---

[1]See Appendix D for a listing of the student write-ins included under each DOT occupational title.

On the basis of this sort, an instructional program/occupation matrix was developed for each of the three educational institutions.

In all cases, references to part-time employment or unemployment were ignored in favor of full-time college. The category of "Other" was determined to mean:

1. graduate was unable to enter the labor market due to physical disability or some other medical reason;
2. graduate (female) did not enter the labor market due to marriage and/or pregnancy.

In developing the instructional program/occupation matrices, the original listing of 85 instructional programs (see Appendix A) was combined and a reduced listing of 28 programs was used (see Appendix B). This was done because some programs had no graduates or the number of graduates was so small that nothing significant could be said or the program(s) was so similar to another program that the two were combined.

LIMITATIONS

The instructional program/occupation matrices were developed on the basis of follow-up questionnaires sent to the 1971 graduates from Pennsylvania postsecondary school programs. These questionnaires were obtained from the Educational Systems Research Institute who conducted the follow-up for the Pennsylvania Department of Education, Bureau of Vocational, Technical and Continuing Education.

The actual survey questionnaires were mailed out on March 24, 1972. A second questionnaire was sent to the non-respondents on or about April 21, 1972. A total of 4,713 usable returns were received. This represents about 63 percent of the total 7,514 graduates. Unfortunately, no sampling of the non-respondents was undertaken. For this reason, it is difficult to determine how representative the usable returns are of the total population. The usable returns by postsecondary institutions were as follows:

Community Colleges	61.8%	2,026
Penn State Branch Campuses	67.0%	640
Private Proprietary Schools	64.0%	3,047
		4,713

In developing the instructional program/occupation matrices for the three institutions, no adjustments were made to take into consideration migration of the graduates out of the state. This was done so that an accurate determination could be made as to the graduates ability to find work related to his past studies regardless of the place of employment. However, as a result of the survey, it was found that on the average, 9.3 percent of the graduates did leave the state. By institution, the out-migration was as follows:

Community Colleges	4.4%	90
Penn State Branch Campuses	10.1%	65
Private Proprietary Schools	13.3%	283
		438

From this, it can be seen that graduates of the private proprietary schools represented the largest proportion of the out-migration. For this reason, the instruction program/occupation matrix for that institution somewhat overestimates the actual supply of graduates entering the labor market in Pennsylvania.

As a final note, not all of the private proprietary schools were included in the follow-up survey and for this reason, no effort should be made to generalize the results to private proprietary schools other than those listed in Appendix C.

RESULTS

The instructional program/occupation matrices which were developed for the Community Colleges, The Pennsylvania State University Campuses and the Private Proprietary schools are presented in three parts: First, findings are presented on the percent of the graduates who:

1. did not look for work after completing their training.
2. continued their education full-time.
3. continued their education part-time.
4. entered the military.
5. for other reasons did not enter the labor force.
6. entered the labor force.

The second part presents information on the percent of the graduates by program who were unemployed at the time the survey was conducted. In the third part, an analysis is presented on how successful the graduates were in finding jobs related to their previous program of study. In all cases, a comparison is made among the graduates from the three training institutions.

A. REASONS FOR NOT ENTERING THE LABOR FORCE

The 1971 postsecondary school graduates were requested to indicate on the follow-up survey form their present status (see Appendix E, Item A). On the basis of these responses, it was found that with the exception of the drafting program graduates from The Pennsylvania State University Campuses, the percent of graduates who did not look for work after completing their training was negligible. The percent of the drafting program graduates from The Pennsylvania State University Campuses was 11.8. However, this represents the responses of two students. Thus, even though the percentage is high, the actual number is

also negligible. The percentage responses of the graduates by program for the three institutions are reproduced in Table 1.1.

On the other hand, based on the results tabulated in Table 1.2, it was found that with the exception of the private proprietary school graduates, a large percentage continued their education full-time. These results indicate that on the whole, the private proprietary schools have the greatest proportion of their graduates who seek direct entry into the labor force. Although The Pennsylvania State University Campuses offer associate degrees in the occupational programs listed, a substantially large percentage of their vocational graduates transfer to higher education institutions. Interestingly, for the Community Colleges, the percent of the graduates from the 28 programs continuing their education full-time ranges from zero for the Welding/Cutting, Forestry Technology and the Apparel and Accessories programs to a high of 50.0% for the Engineering Technology programs. For about two-thirds of the programs, less than 15% continued their education full-time. This indicates that although the Community Colleges do offer programs in which the graduates succeed in transferring academic credit toward further education in other schools, the majority of graduates in these 28 programs gain entry into the work force.

In reviewing the results detailed in Table 1.3, it can be seen that only a small percent of the graduates from three Community College programs continued their education part-time. This would seem to indicate that the graduates feel no real need to supplement the training which they received. This is quite different from the earlier findings on the public secondary vocational-technical program graduates (1) where a significant percentage of the graduates felt a need to supplement their

previous training by attending a postsecondary or college program part-time.

On the other hand, the percent of the 1971 Community College graduates who entered the military after completing their training seems high. As it can be seen in Table 1.5 for 15 programs, the rate of entry was over five percent. Interestingly, the highest rates were for the Automotive and the Automobile and Diesel Technology programs. For the private proprietary school graduates, the percent who entered the military was lower than for the Community Colleges yet for about half the programs, the rate was over 5.0%. The Pennsylvania State University associate degree graduates had the lowest percent entering the military.

Other reasons for not entering the labor force, such as marriage and/or pregnancy or physical disability appears insignificant for The Pennsylvania State University Campuses graduates. For the other two educational institutions, the greatest percentages were found for those programs which are attended predominantly by women.

Based on Tables 1.1 through 1.6, many of the 1971 graduates who did not enter the labor force either continued their education full-time or entered the military.

As can be seen in Table 1.6, the actual percent of the graduates entering the labor force ranges from a low of 40.6% for some programs to a high of 100.0% for other programs. The median labor force participation rate for graduates by institution type, were:

Postsecondary Institutions	Median Rate
Community Colleges	79.3
Penn State Commonwealth Campuses	61.5
Private Proprietary Schools	85.7

Based on these rates, it can be seen that graduates from the private proprietary schools are most apt to seek immediate job entry, whereas

The Pennsylvania State University Campus graduates are most apt to continue their education. The experience of the Community College graduates lies between these two extremes.

Turning to variations in median labor force participation by program, the greatest variation was found among those offered by the community colleges. The Pennsylvania State University associate degree programs have the highest rate of graduates continuing their education while the reverse was found for the private schools.

TABLE 1.1

PERCENT OF POSTSECONDARY GRADUATES BY PROGRAM WHO DID NOT LOOK FOR WORK AFTER COMPLETING THEIR TRAINING

Program	Postsecondary Institution		
	Comm. College	P.S.U. Campuses	Private
Drafting Programs	0.0	11.8	0.0
Technical, Others	2.2	- 1/	0.0
Engineering Technology	0.0	1.3	-
Automotive & Diesel Tech.	0.0	-	1.5
Technology, Others	0.0	2.2	0.0
Accountants/Bookkeepers	1.3	0.0	0.0
Business Data Processing	0.0	0.0p	4.5
Business Adm./Manag. Prog.	1.3	1.3	0.0
Other Programs	3.6	-	-

1/ A dash indicates that the program was not offered by the postsecondary institution.

NOTE: If the percent for a program was less than 0.1, information is not included.

TABLE 1.2

PERCENT OF POSTSECONDARY GRADUATES BY PROGRAM WHO CONTINUED THEIR EDUCATION FULL-TIME

Program	Postsecondary Institution		
	Comm. College	P.S.U. Campuses	Private
Aircraft Programs	4.2	- 1/	0.0
Electrical Programs	6.9	36.1	-
Police Training Programs	18.5	-	-
Drafting Programs	7.9	29.4	2.2
Welding/Cutting	0.0	-	4.2
Technical, Others	11.0	-	30.4
Engineering Technology	50.0	23.7	-
Automotive & Diesel Tech.	25.0	-	0.0
Civil Technology	3.6	12.0	-
Electrical/Electronics Tech.	10.9	30.8	2.2
Drafting/Design Tech.	18.2	34.1	4.0
Architect Tech. Programs	4.0	-	-
Tool/Die Tech. Programs	6.3	0.0	0.0
Forestry Technology	0.0	43.5	-
Technology, Others	25.0	20.0	25.0
Data Processing Programs	12.8	-	5.1
Nursing (Assoc. Degree)	1.1	-	-
Medical Programs, Others	37.6	-	0.0
Accountants/Bookkeepers	16.7	0.0	7.2
Business Data Processing	9.5	-	4.5
Secretarial Programs	4.7	-	0.0
Business Adm./Manag. Prog.	30.0	28.6	14.1
Clerical, Others	8.7	-	0.0
Apparel and Accessories	0.0	-	2.0
Marketing/Retail/Finance	10.9	-	20.0
Other Programs	41.8	-	-

1/ A dash indicates that the program was not offered by the postsecondary institution.

NOTE: If the percent for a program was less than 0.1, information is not included.

TABLE 1.3

PERCENT OF POSTSECONDARY GRADUATES BY PROGRAM WHO CONTINUED THEIR EDUCATION PART-TIME

Program	Postsecondary Institution		
	Comm. College	P.S.U. Campuses	Private
Electrical/Electronics Technology	1.6	0.0	0.0
Accountants/Bookkeepers	1.3	0.0	0.0
Other Programs	1.3	-	- 1/

1/ A dash indicates that the program was not offered by the postsecondary institution.

NOTE: If the percent for a program was less than 0.1, information is not included.

TABLE 1.4

PERCENT OF POSTSECONDARY GRADUATES BY PROGRAM WHO ENTERED THE MILITARY AFTER COMPLETING THEIR TRAINING

Program	Postsecondary Institutions		
	Comm. College	P.S.U. Campuses	Private
Automotive Programs	16.7	-	- 1/
Aircraft Programs	12.5	-	16.7
Electrical Programs	13.8	4.8	-
Police Training	2.2	-	-
Drafting Programs	15.8	17.6	10.9
Welding/Cutting	0.0	-	4.2
Technical, Others	13.2	-	4.3
Automotive & Diesel Tech.	18.8	-	11.9
Civil Technology	7.1	16.0	-
Electrical/Electronics Tech.	10.9	7.7	15.0
Drafting/Design Tech.	9.1	4.9	18.0
Architect Tech. Programs	16.0	-	-
Tool/Die Tech. Programs	6.3	0.0	0.0
Forestry Technology	5.6	4.3	-
Technology, Others	3.1	11.1	0.0
Data Processing Programs	7.7	-	6.3
Accountants/Bookkeepers	9.0	0.0	4.3
Business Data Processing	1.6	0.0	2.3
Business Adm./Manag. Prog.	5.6	5.2	7.0
Apparel and Accessories	0.0	-	2.0
Marketing/Retail/Finance Prog.	2.2	-	10.0
Other Programs	5.5	-	-

1/ A dash indicates that the program was not offered by the postsecondary institution.

NOTE: If the percent for a program was less than 0.1, information is not included.

TABLE 1.5

PERCENT OF POSTSECONDARY GRADUATES BY PROGRAM WHO FOR OTHER REASONS DID NOT ENTER THE LABOR FORCE

Program	Postsecondary Institutions		
	Comm. College	P.S.U. Campuses	Private
Automotive & Diesel Tech.	6.3	- [1]/	0.0
Data Processing Programs	0.0	-	2.1
Nursing (Assoc. Degree)	3.7	-	-
Medical Programs, Other	2.6	-	11.1
Accountants/Bookkeepers	3.8	0.0	0.0
Business Data Processing	1.6	0.0	4.5
Secretarial Programs	2.3	-	5.5
Business Adm./Manag. Prog.	0.0	1.3	0.0
Clerical, Others	13.0	-	5.7
Apparel and Accessories	0.0	-	6.0
Marketing/Retail/Finance Prog.	2.2	-	10.0
Other Programs	6.7	-	-

[1]/ A dash indicates that the program was not offered by the postsecondary institution.

NOTE: If the percent for a program was less than 0.1, information is not included.

TABLE 1.6

PERCENT OF POSTSECONDARY GRADUATES WHO ENTERED THE LABOR FORCE AFTER COMPLETING THEIR TRAINING

Program	Postsecondary Institutions		
	Comm. College	P.S.U. Campuses	Private
Automotive Programs	83.3	- [1]	-
Aircraft Programs	83.3	-	82.4
Electrical Programs	79.3	57.8	-
Police Training Programs	79.3	-	-
Drafting Programs	76.3	41.2	87.0
Welding/Cutting	100.	-	91.7
Technical, Others	72.1	-	65.2
Engineering Technology	50.0	60.5	-
Automotive & Diesel Tech.	50.0	-	86.6
Civil Technology	89.3	72.0	-
Electrical/Electronics Tech.	76.6	61.5	82.3
Drafting/Design Tech.	72.7	60.4	78.0
Architect Tech. Programs	80.0	-	-
Tool/Die Tech. Programs	87.5	100.	100.0
Forestry Technology	94.4	52.2	-
Technology, Others	71.9	66.7	75.0
Data Processing Programs	79.5	-	85.7
Dental Programs	100.	-	-
Nursing (Assoc. Degree)	94.7	-	-
Medical Programs, Others	57.3	-	88.9
Accountants/Bookkeepers	67.9	100.0	87.7
Business Data Processing	87.3	100.0	84.1
Secretarial Programs	93.0	-	93.6
Business Adm./Manag. Prog.	61.4	63.6	76.8
Clerical, Others	78.3	-	94.3
Apparel and Accessories	100.	-	90.0
Marketing/Retail/Finance Prog.	84.8	-	60.0
Other Programs	40.6	-	-

1/ A dash indicates that the program was not offered by the postsecondary institution.

TABLE 1.7

PERCENT OF POSTSECONDARY GRADUATES BY PROGRAM WHO WERE UNEMPLOYED AT THE TIME THE SURVEY WAS CONDUCTED

Program	Postsecondary Institution		
	Comm. College	P.S.U. Campuses	Private
Automotive Programs	12.0	-	- 1/
Aircraft Programs	5.0	-	8.2
Electrical Programs	13.0	12.9	-
Police Training	5.5	-	-
Drafting Programs	3.4	0.0	12.5
Welding/Cutting	0.0	-	22.7
Technical, Others	10.2	-	0.0
Engineering Technology	7.1	6.5	-
Automotive & Diesel Tech.	0.0	-	10.3
Civil Technology	4.0	0.0	-
Electrical/Electronics Tech.	12.1	12.5	12.7
Drafting/Design Tech.	8.3	6.1	12.8
Architect Tech. Programs	10.0	-	-
Tool/Die Tech. Programs	0.0	14.3	11.1
Forestry Technology	5.9	25.0	-
Technology, Others	21.7	6.7	33.3
Data Processing Programs	8.1	-	22.7
Dental Programs	0.0	-	-
Nursing (Assoc. Degree)	1.7	-	-
Medical Programs, Others	11.9	-	25.0
Accountants/Bookkeepers	7.5	0.0	8.3
Business Data Processing	7.3	0.0	21.6
Secretarial Programs	1.3	-	6.8
Business Adm./Manag. Prog.	7.7	2.0	14.1
Clerical, Others	11.1	-	18.2
Apparel and Accessories	0.0	-	11.1
Marketing/Retail/Finance Prog.	0.0	-	0.0
Other Programs	16.4	-	-

1/ A dash indicates that the program was not offered by the postsecondary institution.

B. RATE OF UNEMPLOYMENT FOR GRADUATES WHO ENTERED THE LABOR FORCE

The unemployment rate detailed in Table 1.7 for the graduates from the three educational institutions was calculated by dividing the number of graduates who recorded that they were unemployed by the total number of graduates who entered the labor force. Thus, for example, a total of 222 private proprietary* school graduates completed the aircraft program. Of these, 17,6% (39) continued their education full-time or entered the military. As a result, 183 graduates entered the labor force. Of these 183 graduates, 8.2% (15) were unemployed at the time the survey was taken.

The average unemployment rate for Pennsylvania during the first four months in 1972 was 5.8%. It was found that the rate of unemployment was highest for graduates of private schools. As seen in Table 1.7, only the graduates from two programs had an unemployment rate below the state average. Graduates of the other 16 programs (89% of the total private school graduates) experienced an unemployment rate higher than the state averages and also higher than that of graduates from the two other types of educational institutions (Community Colleges and The Pennsylvania State University Campuses). The data does not offer any clue as to the reasons for this discrepancy.

In an effort to further evaluate the differences among the three educational institutions, a Pearson Product Moment Correlation was calculated to determine the direction and degree of relationship between the rates of unemployment and labor force participation.

---

*It should be noted that the terms "private" and "proprietary" are used interchangeably in this report.

C. INSTRUCTIONAL PROGRAM/OCCUPATION MATRIX

The findings related to which occupations the graduates entered are discussed for each of the 28 programs. A comparative analysis is also made between the three postsecondary institutions. The specific information on each program related to the reasons for nonparticipation in the labor force along with the unemployment rates are also reiterated in Table 2. It was felt that by including all the information for each program on the tables, it would be easier for program evaluators or planners to have a more comprehensive view of the individual program. However, before presenting the findings, a number of methodological procedures are explained which will provide background information deemed necessary for interpreting the findings.

In all cases, the percentages seen for the items:

Not Looking
Full-Time College
Part-Time College
Military
Other

were determined by dividing the number of responses in that category by the total number of responses. The participation rate (percent of the graduates entering the labor force) was determined by totaling the number of graduates employed and unemployed and then dividing that sum by the total number of responses.

Thus:

$$\text{Participation Rate}_{ij} = (\text{employed}_{ij} + \text{unemployed}_{ij}) \div \text{response}_{ij}$$

where:

i = postsecondary institution
j = program

The unemployment rate for each program was calculated by dividing the number of responses for that item by the total number participating in the labor force. Similarly, the employment rate for an occupation was determined by dividing the number of students stating they were employed in that occupation by the total number of graduates from a program who entered the labor force.

Also, in presenting the findings, percentages are included for individual occupations such as Baker or Machinist, for what are called occupational divisions by the Dictionary of Occupational Titles and for major occupational categories. This was done so that it could be determined what percent of the graduates entered a particular occupation or a particular number of occupations (a division) such as engineering or entered a major occupational category such as Professional, Technical and Kindred. If any attempt is made to total the percentages presented in Table 2, reference should be made to Appendix F so as to avoid totaling occupational categories, divisions and individual occupations. Thus, from the table for the graduates from the community colleges from the Automotive programs, the following is seen:

Craftsmen and Kindred	.680
Mechanics and Repairmen	.680
Auto Body Repairmen	.040
Motor Vehicle Repairmen	.600
Heavy Equipment Mechanics	.040
Other Craftsmen	.000

From this, it can be seen that 4 percent became Auto Body Repairmen, 60 percent became Motor Vehicle Mechanics and 4 percent became Heavy Equipment Mechanics. As a result, 68 percent of the graduates found jobs in the general occupational division called Mechanics and Repairmen. Because Mechanics and Repairmen is a division of the overall category called Craftsmen and Kindred, that percent is also included in that category.

1. AUTOMOTIVE PROGRAMS

Included under this general program heading are the graduates from the Automotive Body Program, the Automotive Mechanic Program and Other Automotive. Because these programs were not offered by the Penn State University Campuses or the private proprietary schools, the following discussion pertains only to the graduates of the Community Colleges.

A total of 30 usable returns were received from graduates from those programs. Of those responses, 16.7% entered the military after completing their training. All the other graduates entered the labor force. Of the group entering the labor force, 12% were unemployed at the time the survey was taken. This unemployment rate appears high. However, because there were only 30 responses, there is some doubt that these responses are representative of all the graduates from this program.

If it is assumed that only the occupations under the occupational division--Mechanics and Repairmen--are directly related to these programs, then it can be said that 68% of the graduates who entered the labor force found jobs related to their previous training. This appears to indicate that there was a fairly high demand for graduates with these skills.

On the other hand, 16% of the graduates found unrelated jobs in the general areas of Laborers (8%), Operatives (4%), and Managers, Officials and Proprietors (4%), and four percent found only a slightly related job in the Technical, Other occupational division.

This data suggests that employment in related areas for the graduates from the automotive program was somewaht limited. Considering

the high percentage of graduates not employed in their specialty field, future program expansion should be viewed with caution.

TABLE 2

PROGRAM: AUTOMOTIVE PROGS.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.167
OTHER	0.000
PARTICIPATION RATE	0.833
UNEMPLOYMENT RATE	0.120
EMPLOYMENT TOTAL	0.880
MANAGERS,OFFICIALS,PROPR.	0.040
PROFESSIONAL,TECH,KINDRED	0.040
TECH,EXC MEDICAL & DENTAL	0.040
TECHNICIANS,OTHER	0.040
CRAFTSMEN & KINDRED	0.680
MECHANICS AND REPAIRMEN	0.680
AUTO BODY REPAIRMEN	0.040
MOTOR VEHICLE MECHANICS	0.600
HEAVY EQUIP MECHS	0.040
OPERATIVES & KINDRED	0.040
TRANSP & PUB UTIL OPER	0.040
TRUCK DRIVERS	0.040
LABORERS,EXC FARM	0.080
WAREHOUSEMEN,NEC	0.040
MISC LABORERS	0.040

2. AIRCRAFT PROGRAMS

There were 24 usable returns from the graduates of the Aircraft Program, which includes Aircraft Maintenance, Aircraft Occupations and Airframes.

The following two tables present the results for the graduates of the Aircraft Programs from the Community Colleges and the private proprietary schools.

It can be seen that about 13% of the Community College graduates entered the military compared to 17% of those from the private schools, which was the second highest of all programs, and taken together was the highest total for all programs surveyed. At the same time only 4% of the Community College graduates continued on to college while less than 1% of those from the private proprietary schools chose to continue their education.

The labor force participation rate for both groups was about 83%. The tables indicate that 5% of the Community College group were unemployed, which was about equal to the national average compared to a little more than 8% for the private proprietary schools.

The private proprietary school graduates seemed to have secured related employment at a slightly better rate for 59% compared to about 50% securing related employment for those graduates of the Community Colleges.

Those jobs considered related are:

a. Pilots and Navigators
b. Engineers Aeronautical
c. Mechanics and Repairmen
d. Engineers Technical

Likewise, those employed in what were considered unrelated occupations were less for the private proprietary schools at 26% compared to 35% for Community Colleges. These unrelated fields were:

a. Sales
b. Clerical
c. Service Workers
d. Laborers
e. Carpenters
f. Craftsmen NEC

The data indicates that this program seems to be providing an adequate supply of trained workers for the aircraft related industries. It must be noted that the unemployment rate is low and a small number seek to further their education. Discrepancies exist, however, in the area of unrelated occupations with high employment rates in these areas. This seems to indicate that his field is very specialized and suggesting that once these jobs are filled, a person must be mobile enough to secure employment elsewhere.

TABLE 2

PROGRAM: AIRCRAFT PROGRAMS

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.042
PART TIME COLLEGE	0.000
MILITARY	0.125
OTHER	0.000
PARTICIPATION RATE	0.833
UNEMPLOYMENT RATE	0.050
EMPLOYMENT TOTAL	0.950
PROFESSIONAL,TECH,KINDRED	0.200
OTHER PROF,TECH,KINDRED	0.050
PILOTS AND NAVIGATORS	0.050
ENGINEERS TECHNICAL	0.050
ENGINEERS AERONAUTICAL	0.050
TECH,EXC MEDICAL & DENTAL	0.050
TECHNICIANS,OTHER	0.050
TECH,MEDICAL AND DENTAL	0.050
HEALTH TECH & TECH NEC	0.050
CRAFTSMEN & KINDRED	0.500
CONSTRUCTION CRAFTSMEN	0.050
CARPENTERS	0.050
MECHANICS AND REPAIRMEN	0.400
AIRPLANE MECH & REPAIR	0.250
HEAVY EQUIP MECHS	0.100
OTHER MECHS & REPAIRMEN	0.050
OTHER CRAFTSMEN	0.050
CRAFTSMEN NEC	0.050
OPERATIVES & KINDRED	0.200
CONSTRUCTION OPERATIVES	0.050
CONSTRU OPER NEC	0.050
SEMISKILLED METALWRKNG	0.100
WELDERS & FLAME CUTTRS	0.050
MISC METAL WORK OPER	0.050
TRANSP & PUB UTIL OPER	0.050
TRUCK DRIVERS	0.050
LABORERS,EXC FARM	0.050
MISC LABORERS	0.050

TABLE 2

PROGRAM: AIRCRAFT PROGRAMS

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.009
PART TIME COLLEGE	0.000
MILITARY	0.167
OTHER	0.000
PARTICIPATION RATE	0.824
UNEMPLOYMENT RATE	0.082
EMPLOYMENT TOTAL	0.918
MANAGERS,OFFICIALS,PROPR.	0.038
PROFESSIONAL,TECH,KINDRED	0.115
ENGINEERS TECHNICAL	0.082
ENGINEERS AERONAUTICAL	0.055
ENGINEERS ELECTRICAL	0.011
OTHER ENGINEERS,TECHNICAL	0.011
TECH,EXC MEDICAL & DENTAL	0.033
TECHNICIANS,OTHER	0.027
SALES WORKERS	0.016
SALESMEN & S CLERKS NEC	0.016
CLERICAL & KINDRED	0.011
CRAFTSMEN & KINDRED	0.541
CONSTRUCTION CRAFTSMEN	0.016
ELECTRICIANS	0.011
METALWRKING CRAFTSMEN	0.027
MACHINISTS & RELATED	0.011
MECHANICS AND REPAIRMEN	0.454
AIRCOND,HEAT & REFRIG	0.011
AIRPLANE MECH & REPAIR	0.290
AUTO BODY REPAIRMEN	0.016
MOTOR VEHICLE MECHANICS	0.060
OTHER MECHS & REPAIRMEN	0.066
OTHER CRAFTSMEN	0.044
CRAFTSMEN NEC	0.027
OPERATIVES & KINDRED	0.066
SEMISKILLED METALWRKNG	0.033
MACHINE TOOL OPERS	0.011
PRECISION MACHINE NEC	0.011
WELDERS & FLAME CUTTRS	0.016
TRANSP & PUB UTIL OPER	0.016
TRUCK DRIVERS	0.016
OTHER OPERATIVES	0.011
LABORERS,EXC FARM	0.093
STOCKHANDLERS	0.016
WAREHOUSEMEN,NEC	0.011
MISC LABORERS	0.049
SERVICE WORKERS	0.033
OTHER SERVICE WORKERS	0.022
ATTENDENTS NEC	0.016

3. ELECTRICAL PROGRAMS

For the purpose of this analysis the following programs, Electrical Construction, Electronics Occupations, Electronics Radio/TV, and Electronic Other have been combined into one category under this heading. These programs were offered in some community colleges and through The Pennsylvania State University associate degree programs.

There were 29 usable returns from the Community College graduates, and 147 returns from the graduates of The Pennsylvania State University programs. The labor force participation rate, that is those seeking work and those employed, was 79% for the Community Colleges, while only 58% of the Penn State group were considered labor force participants. Fourteen percent of the Community College graduates were in the military service when surveyed as compared to only 5% of The Pennsylvania State University group. On the other hand, 36% of the Penn State group engaged in full-time college activities, while 7% of those that graduated from the Community Colleges chose to continue their education. This number when viewed with the higher labor force participation rate may indicate a feeling among community college graduates that additional education is not helpful or required at this time. The unemployment rate for both groups was higher than the national average at about 13%, indicating that the demand for these graduates was low at the time this survey was conducted.

Only 39% of the Community College group were employed in related occupations indicating that graduates of this program were having difficulty in securing employment in their specialty area. Those occupations considered to be related are:

a. Engineer Electrical
b. Electricians
c. Other Mechanics and Repairmen
d. Technicians, Other
e. Telephone Linemen
f. Radio and TV Mechanics

Sixty-one percent of the Penn State graduates were employed in these related occupations.

The percent employed in the unrelated occupations was high for both groups. The data indicates that 39% of the Community College graduates and 20% of the Penn State group, were employed in what was considered unrelated occupations.

Considering that 13% were unemployed and that 39% were employed in unrelated occupations, indications are that an imbalance exists within the occupational supply/demand system. In addition, the data indicates that 36% of the Penn State group continued on to college. Therefore these programs are removing these students from the labor force for the time they are in school. Given that the economy must be considered dynamic and that the mobility of the graduates is unknown, there still seems to be sufficient evidence for program planners to consider this data when making future program decisions.

It is suggested that this program receive additional attention at the educational institutions to uncover specific data that perhaps would shed some light on this imbalance. This data could then be used by vocational planners and administrators for subsequent program improvement and for any additional adjustments that are felt to be necessary.

TABLE 2

PROGRAM: ELECTRICAL PROGS.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.069
PART TIME COLLEGE	0.000
MILITARY	0.138
OTHER	0.000
PARTICIPATION RATE	0.793
UNEMPLOYMENT RATE	0.130
EMPLOYMENT TOTAL	0.870
MANAGERS,OFFICIALS,PROPR.	0.087
PROFESSIONAL,TECH,KINDRED	0.130
ENGINEERS TECHNICAL	0.043
ENGINEERS ELECTRICAL	0.043
TECH,EXC MEDICAL & DENTAL	0.087
TECHNICIANS,OTHER	0.087
SALES WORKERS	0.043
SALESMEN & S CLERKS NEC	0.043
CRAFTSMEN & KINDRED	0.348
CONSTRUCTION CRAFTSMEN	0.174
ELECTRICIANS	0.174
MECHANICS AND REPAIRMEN	0.087
RADIO AND TV MECHANICS	0.043
OTHER MECHS & REPAIRMEN	0.043
OTHER CRAFTSMEN	0.087
CRAFTSMEN NEC	0.087
LABORERS,EXC FARM	0.217
CONSTRUCTION LABORERS	0.043
MISC LABORERS	0.174
SERVICE WORKERS	0.043
PROTECTIVE SERVICE	0.043
GUARDS,WATCHMEN	0.043

TABLE 2

PROGRAM: ELECTRICAL PROGS.

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.007
FULL TIME COLLEGE	0.361
PART TIME COLLEGE	0.007
MILITARY	0.048
OTHER	0.000
PARTICIPATION RATE	0.578
UNEMPLOYMENT RATE	0.129
EMPLOYMENT TOTAL	0.871
MANAGERS,OFFICIALS,PROPR.	0.047
PROFESSIONAL,TECH,KINDRED	0.565
ENGINEERS TECHNICAL	0.435
ENGINEERS ELECTRICAL	0.353
ENGINEERS INDUSTRIAL	0.012
SALES	0.012
OTHER ENGINEERS,TECHNICAL	0.059
TECH,EXC MEDICAL & DENTAL	0.129
COMPUTER PROGRAMMERS	0.012
DESIGNERS	0.024
PHOTOGRAPHERS	0.012
TECHNICIANS,OTHER	0.082
SALES WORKERS	0.024
ADVER AGENTS & SALESMEN	0.012
SALESMEN & S CLERKS NEC	0.012
CLERICAL & KINDRED	0.059
EXPEDTERS & PROD CONTROL	0.012
STOCK CLRKS & STOREKPRS	0.035
OTHER CLERICAL	0.012
CRAFTSMEN & KINDRED	0.106
CONSTRUCTION CRAFTSMEN	0.059
CRANE,DERRICK,HOISTMEN	0.012
ELECTRICIANS	0.047
MECHANICS AND REPAIRMEN	0.024
OTHER MECHS & REPAIRMEN	0.024
OTHER CRAFTSMEN	0.024
TELEPHONE LINEMEN	0.012
CRAFTSMEN NEC	0.012
OPERATIVES & KINDRED	0.024
SEMISKILLED METALWRKNG	0.012
WELDERS & FLAME CUTTRS	0.012
OTHER OPERATIVES	0.012
PAINTERS,MFG	0.012
LABORERS,EXC FARM	0.047
MISC LABORERS	0.047

4. POLICE TRAINING

There were 92 usable returns from the graduates of the Police Training Program. The Community Colleges were the only postsecondary institutions in the State offering this program.

The accompanying table shows that approximately 2% of these graduates were in the military whereas 19% were enrolled in full-time college programs. The labor force participation rate for these graduates was 80% with 6% of these unemployed. Seventy-six percent of those employed were in highly related occupations. Those occupations considered to be related include:

a. Managers, Officials
b. Professionals, Technical
c. Clerical and Kindred
d. Craftsmen and Kindred
e. Mechanics and Repairmen
f. Operatives and Kindred
g. Transportation and Public Utility Operatives
h. Laborers
i. Other Service Workers

About 18% of those graduates continued their education and the unemployment rate was similar to the national average, indicating that these graduates had little difficulty when entering the labor force. It was noted that the percentage employed in unrelated jobs was 22%, and the number of occupations was large. That is, they were spread over a wide range of occupations, indicating that graduates from this program are employable but no employment pattern or cluster can be identified for those in these unrelated occupations.

TABLE 2

PROGRAM: POLICE TRAINING PROGS.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.185
PART TIME COLLEGE	0.000
MILITARY	0.022
OTHER	0.000
PARTICIPATION RATE	0.793
UNEMPLOYMENT RATE	0.055
EMPLOYMENT TOTAL	0.945
MANAGERS,OFFICIALS,PROPR.	0.027
PROFESSIONAL,TECH,KINDRED	0.055
TEACHERS	0.014
TEACHERS OTHER	0.014
OTHER PROF,TECH,KINDRED	0.014
PROF,TECH,KINDRED NEC	0.014
TECH,EXC MEDICAL & DENTAL	0.027
DRAFTSMEN	0.014
SURVEYORS	0.014
CLERICAL & KINDRED	0.014
CASHIERS	0.014
CRAFTSMEN & KINDRED	0.014
MECHANICS AND REPAIRMEN	0.014
OTHER MECHS & REPAIRMEN	0.014
OPERATIVES & KINDRED	0.014
TRANSP & PUB UTIL OPER	0.014
FORLIFT & TOW MOTOR	0.014
LABORERS,EXC FARM	0.027
MISC LABORERS	0.027
SERVICE WORKERS	0.795
OTHER SERVICE WORKERS	0.041
OTHER SERVICE WKRS	0.041
PROTECTIVE SERVICE	0.753
GUARDS,WATCHMEN	0.014
POLICEMEN,DETECTIVES,ETC	0.740

5. DRAFTING PROGRAMS

Each of the three types of institutions surveyed offered a drafting program which includes either, Drafting Architecture, Drafting Mechanics or Drafting Occupations.

There were 38 usable returns from the Community College graduates, 17 from The Pennsylvania State University graduates and 46 from the private school graduates.

From this data it can be seen that approximately 30% of the Penn State group went on to full-time college. The Community College graduates were second with 8% and then the private proprietary schools with 2% of their graduates furthering their education.

Each group had an average of 14% of its graduates in full-time military service, which was rather consistent across all programs surveyed. It was interesting to note that 12% of the Penn State group were not actively seeking employment.

The participation rate for the private proprietary school graduates was the highest with 87%, the Community Colleges were next with 76%, and finally the Penn State group with 41%. The Penn State group was the only group to have 0% unemployed, with the Community College group next 4% and then the private proprietary schools with a 13% unemployment rate. Thus the private proprietary school graduates were the only ones with an unemployment rate higher than the national average.

Of those Community College graduates that entered the labor force, about 49% were employed in related occupations, followed by the private proprietary schools with about the same percentage, whereas the Penn State graduates show only about 14% in related fields. These related programs include:

a. Designers
b. Draftsmen
c. Engineers, Technical
d. Technical, Other

Those employed in unrelated occupations, include 48% for the Community College group, 86% for the Penn State graduates and 36% for the private proprietary school graduates. Programs that are considered unrelated include:

a. Sales Workers
b. Clerical and Kindred
c. Craftsmen and Kindred
d. Operatives and Kindred
e. Laborers
f. Service Workers
g. Health Technicians

Thus the percentage of those employed in unrelated occupations was high and again it can be seen that a surplus of skilled manpower exists in the technical fields. In light of these findings it may be recommended that program planners adjust enrollment quotas that will bring the occupational supply/demand ratio more into balance.

TABLE 2

PROGRAM: DRAFTING PROGS.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.079
PART TIME COLLEGE	0.000
MILITARY	0.158
OTHER	0.000
PARTICIPATION RATE	0.763
UNEMPLOYMENT RATE	0.034
EMPLOYMENT TOTAL	0.966
PROFESSIONAL,TECH,KINDRED	0.517
ENGINEERS TECHNICAL	0.172
SALES	0.034
OTHER ENGINEERS,TECHNICAL	0.138
TECH,EXC MEDICAL & DENTAL	0.310
DESIGNERS	0.034
DRAFTSMEN	0.241
TECHNICIANS,OTHER	0.034
TECH,MEDICAL AND DENTAL	0.034
HEALTH TECH & TECH NEC	0.034
SALES WORKERS	0.034
ADVER AGENTS & SALESMEN	0.034
CLERICAL & KINDRED	0.207
ESTIM & INVESTIGATORS	0.034
STOCK CLRKS & STOREKPRS	0.103
OTHER CLERICAL	0.069
CRAFTSMEN & KINDRED	0.069
METALWRKING CRAFTSMEN	0.034
TOOL & DIEMAKERS	0.034
OTHER CRAFTSMEN	0.034
CRAFTSMEN NEC	0.034
OPERATIVES & KINDRED	0.103
TRANSP & PUB UTIL OPER	0.069
TRUCK DRIVERS	0.069
OTHER OPERATIVES	0.034
OPERATIVES NEC	0.034
SERVICE WORKERS	0.034
CLEANING SERVICES	0.034
JANITORS AND SEXTONS	0.034

TABLE 2

PROGRAM: DRAFTING PROGS.

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.118
FULL TIME COLLEGE	0.294
PART TIME COLLEGE	0.000
MILITARY	0.176
OTHER	0.000
PARTICIPATION RATE	0.412
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
PROFESSIONAL,TECH,KINDRED	0.143
TECH,EXC MEDICAL & DENTAL	0.143
DRAFTSMEN	0.143
CRAFTSMEN & KINDRED	0.286
MECHANICS AND REPAIRMEN	0.286
AIRCOND,HEAT & REFRIG	0.143
AUTO BODY REPAIRMEN	0.143
OPERATIVES & KINDRED	0.429
TRANSP & PUB UTIL OPER	0.286
TRUCK DRIVERS	0.143
TRANS EQUIP OPER NEC	0.143
OTHER OPERATIVES	0.143
PAINTERS,MFG	0.143
LABORERS,EXC FARM	0.143
MISC LABORERS	0.143

TABLE 2

PROGRAM: DRAFTING PROGS.

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.022
PART TIME COLLEGE	0.000
MILITARY	0.109
OTHER	0.000
PARTICIPATION RATE	0.870
UNEMPLOYMENT RATE	0.125
EMPLOYMENT TOTAL	0.875
PROFESSIONAL,TECH,KINDRED	0.500
ENGINEERS TECHNICAL	0.075
ENGINEERS ELECTRICAL	0.025
OTHER ENGINEERS,TECHNICAL	0.050
TECH,EXC MEDICAL & DENTAL	0.425
DESIGNERS	0.100
DRAFTSMEN	0.325
SALES WORKERS	0.025
SALESMEN & S CLERKS NEC	0.025
CLERICAL & KINDRED	0.050
DISPATCHERS & STARTERS	0.025
STOCK CLRKS & STOREKPRS	0.025
CRAFTSMEN & KINDRED	0.150
CONSTRUCTION CRAFTSMEN	0.050
BRICKMASONS,ETC	0.025
ROOFERS AND SLATERS	0.025
METALWRKING CRAFTSMEN	0.025
MACHINISTS & RELATED	0.025
MECHANICS AND REPAIRMEN	0.050
AUTO BODY REPAIRMEN	0.025
MOTOR VEHICLE MECHANICS	0.025
OTHER CRAFTSMEN	0.025
CRAFTSMEN NEC	0.025
OPERATIVES & KINDRED	0.050
SEMISKILLED METALWRKNG	0.025
WELDERS & FLAME CUTTRS	0.025
TRANSP & PUB UTIL OPER	0.025
FORLIFT & TOW MOTOR	0.025
LABORERS,EXC FARM	0.050
WAREHOUSEMEN,NEC	0.025
MISC LABORERS	0.025
SERVICE WORKERS	0.050
FOOD SERVICE WORKERS	0.025
FOOD SERVICE NEC	0.025
OTHER SERVICE WORKERS	0.025
OTHER SERVICE WKRS	0.025

6. WELDING/CUTTING PROGRAM

The Welding/Cutting Program was offered in both the Community Colleges and private proprietary schools. However, since the Community Colleges graduated only a small number of students, the number of usable returns was not sufficient to warrant analysis. Therefore, this summary will only be concerned with the private proprietary schools from which there were 24 usable returns.

Four percent of these graduates were serving in the military and an equal number, 4% were attending full-time college. This would indicate that the Welding/Cutting Program is chiefly skill oriented. Thirty-three percent of the graduates were unemployed, which is far above the national average.

The labor force participation rate, that is those employed or looking for employment, was equal to 92%. The employment total for this program was 77%. Of those employed, 55% were employed in what were considered related occupations. These related occupations include:

a. Welders and Flame Cutters
b. Miscellaneous Metal Workers
c. Plumbers and Pipefitters
d. Mine Operatives

In addition, there were 23% employed in what was considered unrelated occupations. These unrelated occupations include:

a. Engineers Technical
b. Technical, Executive, Medical and Dental
c. Other Craftsmen
d. Service Workers

The unemployment rate of 23% for this program was high. This figure coupled with those 23% employed in unrelated occupations, indicates a need to reevaluate this program in the light of an

apparent less labor demand. There were no discernible clusters of occupations in the unrelated area that would indicate alternative employment patterns for these graduates. It seems that this data should be reviewed by administrators and program planners so that appropriate adjustments might be made to adjust this oversupply of skilled manpower.

TABLE 2

PROGRAM: WELDING/CUTTING

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	1.000
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
CRAFTSMEN & KINDRED	0.167
CONSTRUCTION CRAFTSMEN	0.167
PLUMBERS AND PIPEFITTERS	0.167
OPERATIVES & KINDRED	0.500
SEMISKILLED METALWRKNG	0.500
WELDERS & FLAME CUTTRS	0.500
LABORERS,EXC FARM	0.167
MISC LABORERS	0.167
SERVICE WORKERS	0.167
CLEANING SERVICES	0.167
JANITORS AND SEXTONS	0.167

TABLE 2

PROGRAM: WELDING/CUTTING

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.042
PART TIME COLLEGE	0.000
MILITARY	0.042
OTHER	0.000
PARTICIPATION RATE	0.917
UNEMPLOYMENT RATE	0.227
EMPLOYMENT TOTAL	0.773
PROFESSIONAL,TECH,KINDRED	0.091
ENGINEERS TECHNICAL	0.045
SALES	0.045
TECH,EXC MEDICAL & DENTAL	0.045
DRAFTSMEN	0.045
CRAFTSMEN & KINDRED	0.182
CONSTRUCTION CRAFTSMEN	0.136
PLUMBERS AND PIPEFITTERS	0.136
OTHER CRAFTSMEN	0.045
CRAFTSMEN NEC	0.045
OPERATIVES & KINDRED	0.409
SEMISKILLED METALWRKNG	0.364
WELDERS & FLAME CUTTRS	0.318
MISC METAL WORK OPER	0.045
OTHER OPERATIVES	0.045
MINE OPERATIVES	0.045
LABORERS,EXC FARM	0.045
MISC LABORERS	0.045
SERVICE WORKERS	0.045
OTHER SERVICE WORKERS	0.045
OTHER SERVICE WKRS	0.045

7. TECHNICAL, OTHERS

Under this general heading, the following programs were included:

a. Office Machine Maintenance/Repairmen
b. Commercial Art
c. Carpentry/Construction
d. Heavy Equipment/Construction
e. Masonry/Tile Setting
f. Plumbing/Pipefitting
g. Industrial Management
h. Graphic Arts
i. Sheet Metal
j. Machinist/Machine
k. Public Service Occupations
l. Airlines Careers

Since the heading "Technical, Others" included a wide range of programs, it was felt that no meaningful conclusions could be drawn from this data. The tables are thus included so that the readers are able to appreciate the diversity of this program and be sensitive to the overall data.

TABLE, 2

PROGRAM: TECHNICAL,OTHER

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.022
FULL TIME COLLEGE	0.110
PART TIME COLLEGE	0.007
MILITARY	0.132
OTHER	0.007
PARTICIPATION RATE	0.721
UNEMPLOYMENT RATE	0.102
EMPLOYMENT TOTAL	0.898
MANAGERS,OFFICIALS,PROPR.	0.031
PROFESSIONAL,TECH,KINDRED	0.102
OTHER PROF,TECH,KINDRED	0.031
SOCIAL & WELFARE WORKERS	0.010
PROF,TECH,KINDRED NEC	0.020
ENGINEERS TECHNICAL	0.010
SALES	0.010
TECH,EXC MEDICAL & DENTAL	0.061
DESIGNERS	0.031
TECHNICIANS,OTHER	0.031
SALES WORKERS	0.051
SALESMEN & S CLERKS NEC	0.051
CLERICAL & KINDRED	0.061
BOOKKEEPERS,HAND	0.010
FILE CLERKS	0.010
HEALTH RECORD CLERKS	0.010
SHIP & RECEIV CLRKS	0.010
TYPISTS	0.010
OTHER CLERICAL	0.010
CRAFTSMEN & KINDRED	0.439
CONSTRUCTION CRAFTSMEN	0.184
BRICKMASONS,ETC	0.031
CARPENTERS	0.082
CRANE,DERRICK,HOISTMEN	0.010
EXCAVAT,GRADING MACH	0.020
PAINTERS	0.010
PLUMBERS AND PIPEFITTERS	0.020
TILE SETTERS	0.010
METALWRKING CRAFTSMEN	0.133
MACHINISTS & RELATED	0.112
TOOL & DIEMAKERS	0.020
MECHANICS AND REPAIRMEN	0.031
HEAVY EQUIP MECHS	0.010
OFFICE MACHINE MECHANICS	0.010
RADIO AND TV MECHANICS	0.010
PRINTING TRADES CRAFTS	0.061
COMPOS & TYPESETTERS	0.010
PRESSMN & PLATE PRINT	0.051
OTHER CRAFTSMEN	0.031
DECOR & WINDOW DRESSERS	0.020
CRAFTSMEN NEC	0.010
OPERATIVES & KINDRED	0.112
SEMISKILLED METALWRKNG	0.010
FILRS,POLSHRS,SNDRS	0.010
TRANSP & PUB UTIL OPER	0.041

TRUCK DRIVERS	0.031
TRANS EQUIP OPER NEC	0.010
OTHER OPERATIVES	0.061
ASSEMBLERS	0.020
MEAT CUTTERS,MFG	0.010
OPERATIVES NEC	0.031
LABORERS,EXC FARM	0.102
WAREHOUSEMEN,NEC	0.010
MISC LABORERS	0.092

TABLE 2

PROGRAM: TECHNICAL,OTHER

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.304
PART TIME COLLEGE	0.000
MILITARY	0.043
OTHER	0.000
PARTICIPATION RATE	0.652
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
MANAGERS,OFFICIALS,PROPR.	0.133
PROFESSIONAL,TECH,KINDRED	0.200
ENGINEERS TECHNICAL	0.133
ENGINEERS INDUSTRIAL	0.067
OTHER ENGINEERS,TECHNICAL	0.067
TECH,EXC MEDICAL & DENTAL	0.067
TOOL PROGRAMMERS	0.067
CLERICAL & KINDRED	0.467
BILLING CLERKS	0.067
SECRETARIES	0.200
STENOGRAPHERS	0.133
TYPISTS	0.067
CRAFTSMEN & KINDRED	0.067
METALWRKING CRAFTSMEN	0.067
MOLDERS,METAL	0.067
OPERATIVES & KINDRED	0.133
SEMISKILLED METALWRKNG	0.133
MACHINE TOOL OPERS	0.133
PRECISION MACHINE NEC	0.133

8. ENGINEERING TECHNOLOGY

There were two types of institutions offering the Engineering Technology program in the State of Pennsylvania. They were the Community Colleges, and The Pennsylvania State University through its two year programs.

The usable returns from the Community College graduates numbered 28, while there were 76 usable returns from the Penn State graduates.

It was noted that 50% of the community college graduates chose to further their education. This may indicate that there were only a few jobs available or none that they were specifically prepared for. Therefore, they may have entered college as an alternative to unemployment. In addition, it was noted that there were no graduates from the Community College program that entered the military.

The participation rate for the Community College graduates was 50% with 7% of these unemployed, which was somewhat higher than the national average. Of those participating in the labor force, 50% were considered to be engaged in occupations that were related to their major field of study. These related areas include:

a. Engineers
b. Draftsmen and Designers
c. Technicians
d. Engineering Sales
e. Surveyors
f. Electricians
g. Radio and TV Mechanics
h. Telephone Installers

In addition, 36% of those employed were employed in occupations that are considered unrelated to their specialty area. Occupations considered to be unrelated include:

a. Clerical
b. Laborers
c. Service
d. Other Professional and Technical

This data indicates that if these graduates do not continue their education or chose some other alternative such as the military service, they will likely experience difficulty in finding employment related to their specialty area.

About 24% of the Penn State group went on to full-time college with an additional 15% of these students serving in the military.

The labor force participation rate for this group was 61% with about 7% of these unemployed, which was slightly higher than the national average. It can be seen that about 57% of those employed were in occupations related to their course of study. This percentage was only a little higher than that for the Community Colleges indicating that these two groups have similar employment patterns.

There were about 28% employed in unrelated occupations indicating these graduates experienced some difficulty in obtaining employment related to their major field.

Graduates from both of these programs seem to seek additional education and those that do seek work must accept employment over a wide range of occupational areas. Therefore, it is recommended that these programs be reevaluated and adjusted to meet current demands, which are perhaps less than existed at the time the program was initiated and the economy was different.

TABLE 2

PROGRAM: ENGINEERING TECH.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.500
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	0.500
UNEMPLOYMENT RATE	0.071
EMPLOYMENT TOTAL	0.929
PROFESSIONAL,TECH,KINDRED	0.643
OTHER PROF,TECH,KINDRED	0.143
SOCIAL & WELFARE WORKERS	0.071
PROF,TECH,KINDRED NEC	0.071
ENGINEERS TECHNICAL	0.143
SALES	0.071
OTHER ENGINEERS,TECHNICAL	0.071
TECH,EXC MEDICAL & DENTAL	0.357
DRAFTSMEN	0.143
SURVEYORS	0.071
TECHNICIANS,OTHER	0.143
CRAFTSMEN & KINDRED	0.071
MECHANICS AND REPAIRMEN	0.071
MOTOR VEHICLE MECHANICS	0.071
LABORERS,EXC FARM	0.214
FREIGHT HANDLERS	0.071
STOCKHANDLERS	0.071
MISC LABORERS	0.071

TABLE 2

PROGRAM: ENGINEERING TECH.

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.013
FULL TIME COLLEGE	0.237
PART TIME COLLEGE	0.000
MILITARY	0.145
OTHER	0.000
PARTICIPATION RATE	0.605
UNEMPLOYMENT RATE	0.065
EMPLOYMENT TOTAL	0.935
MANAGERS,OFFICIALS,PROPR.	0.022
PROFESSIONAL,TECH,KINDRED	0.500
ENGINEERS TECHNICAL	0.283
ENGINEERS ELECTRICAL	0.130
ENGINEERS INDUSTRIAL	0.022
OTHER ENGINEERS,TECHNICAL	0.130
TECH,EXC MEDICAL & DENTAL	0.217
DESIGNERS	0.087
DRAFTSMEN	0.065
TECHNICIANS,OTHER	0.065
SALES WORKERS	0.043
ADVER AGENTS & SALESMEN	0.022
SALESMEN & S CLERKS NEC	0.022
CLERICAL & KINDRED	0.043
EXPEDTERS & PROD CONTROL	0.022
SECRETARIES	0.022
CRAFTSMEN & KINDRED	0.130
CONSTRUCTION CRAFTSMEN	0.065
CABINETMAKERS	0.022
ELECTRICIANS	0.022
INSPECTORS,CONSTRUCTION	0.022
MECHANICS AND REPAIRMEN	0.043
RADIO AND TV MECHANICS	0.022
OTHER MECHS & REPAIRMEN	0.022
OTHER CRAFTSMEN	0.022
TELEPHONE INSTALLERS	0.022
OPERATIVES & KINDRED	0.087
TRANSP & PUB UTIL OPER	0.022
TRUCK DRIVERS	0.022
OTHER OPERATIVES	0.065
MINE OPERATIVES	0.065
LABORERS,EXC FARM	0.065
MISC LABORERS	0.065
SERVICE WORKERS	0.043
PROTECTIVE SERVICE	0.043
GUARDS,WATCHMEN	0.022
POLICEMEN,DETECTIVES,ETC	0.022

TABLE 2

PROGRAM: ENGINEERING TECH.

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	0.000
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	0.000

9. AUTOMOTIVE AND DIESEL TECHNOLOGY

The private proprietory schools and the Community Colleges were the only institutions that offered the Automotive and Diesel Technology Program. For the purpose of this analysis the following programs were included in the above heading: Automotive Technology, Mechanical Technology and Diesel Technology. The graduates from the Community Colleges returned 16 usable questionnaires, whereas the graduates of the private schools returned 67.

The following tables indicate that all Community College graduates seeking jobs were highly successful in securing employment. In addition, all of those employed were employed in what was considered to be related occupations. These related occupations include:

a. Auto Body Repair
b. Motor Vehicle Mechanics
c. Heavy Equipment Mechanics
d. Other Mechanics and Repairmen
e. Craftsmen NEC
f. Professional, Technical, Kindred

The data shows that 25% of the graduates of the Community Colleges chose to further their education. Conversely, none of the graduates of the private proprietary schools continued their education. In addition, it can be seen that 19% of those Community College graduates entered the military. This figure combined with the percentage that went on to college may account for the 0% unemployment figure.

The private proprietary schools data indicate that about 87% of the graduates participated in the labor force. Of these, about 80% were considered to be employed in highly or slightly related occupations. This figure indicates that graduates of this program was successful in securing employment in their major field. Only 14% of the labor force

participants were employed in what are considered unrelated occupations. These unrelated occupations include:

a. Laborers, Excluding Farming
b. Operatives
c. Managers, Officials, Proprietors

Although 14% is high, this figure was not considered large enough to create concern when considering the large number employed in related occupations. In view of the data presented, this program seems to be functioning well within the manpower system.

TABLE 2

PROGRAM: AUTOMOTIVE & DEISEL TECH.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.250
PART TIME COLLEGE	0.000
MILITARY	0.188
OTHER	0.063
PARTICIPATION RATE	0.500
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
PROFESSIONAL,TECH,KINDRED	0.125
OTHER PROF,TECH,KINDRED	0.125
PROF,TECH,KINDRED NEC	0.125
CRAFTSMEN & KINDRED	0.875
MECHANICS AND REPAIRMEN	0.875
AUTO BODY REPAIRMEN	0.125
MOTOR VEHICLE MECHANICS	0.375
HEAVY EQUIP MECHS	0.125
OTHER MECHS & REPAIRMEN	0.250

TABLE 2

PROGRAM: AUTOMOTIVE & DEISEL TECH.

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.015
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.119
OTHER	0.000
PARTICIPATION RATE	0.866
UNEMPLOYMENT RATE	0.103
EMPLOYMENT TOTAL	0.897
MANAGERS,OFFICIALS,PROPR.	0.069
PROFESSIONAL,TECH,KINDRED	0.052
ENGINEERS TECHNICAL	0.034
ENGINEERS MECHANICAL	0.034
TECH,EXC MEDICAL & DENTAL	0.017
TECHNICIANS,OTHER	0.017
CRAFTSMEN & KINDRED	0.707
MECHANICS AND REPAIRMEN	0.655
AUTO BODY REPAIRMEN	0.310
MOTOR VEHICLE MECHANICS	0.310
HEAVY EQUIP MECHS	0.017
OTHER MECHS & REPAIRMEN	0.017
OTHER CRAFTSMEN	0.052
CRAFTSMEN NEC	0.052
OPERATIVES & KINDRED	0.034
SEMISKILLED METALWRKNG	0.017
WELDERS & FLAME CUTTRS	0.017
OTHER OPERATIVES	0.017
OPERATIVES NEC	0.017
LABORERS,EXC FARM	0.034
MISC LABORERS	0.034

10. CIVIL TECHNOLOGY

There were 28 returns from the Community College Graduates and 25 from The Pennsylvania State University Campuses. The program was not offered by the private proprietary schools. Because the actual number of returns was small, there should be some reservation in using the tabulated results to generalize to all Civil Technology program graduates.

Based on the returns received, it appears that 16% of the Penn State University Campus graduates entered the military after completing their training while only 7.1% of the Community College graduates did so. Also, 12% of the Penn State Graduates continued their education full-time whereas only 3.6% of the Community College graduates did. As a result, the percent of the Penn State graduates entering the labor force was much lower (72%) than for the Community College graduates (89.3%).

If it is assumed that the occupations related to this program are:

a. Civil Engineers
b. Other Engineers
c. Draftsmen
d. Surveyors

then it can be seen that all of the Penn State Campus graduates looking for work found jobs directly related to their program of study. On the other hand, for the graduates from the Community Colleges, only 76% found jobs directly related to their training. It must be remembered that although this seems important, the number of returns from these program graduates was small and it cannot be determined how representative these responses were of all the program graduates.

TABLE 2

PROGRAM: CIVIL TECH.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.036
PART TIME COLLEGE	0.000
MILITARY	0.071
OTHER	0.000
PARTICIPATION RATE	0.893
UNEMPLOYMENT RATE	0.040
EMPLOYMENT TOTAL	0.960
MANAGERS,OFFICIALS,PROPR.	0.040
PROFESSIONAL,TECH,KINDRED	0.760
ENGINEERS TECHNICAL	0.520
ENGINEERS CIVIL	0.480
OTHER ENGINEERS,TECHNICAL	0.040
TECH,EXC MEDICAL & DENTAL	0.240
DRAFTSMEN	0.120
SURVEYORS	0.120
CLERICAL & KINDRED	0.040
OTHER CLERICAL	0.040
CRAFTSMEN & KINDRED	0.040
MECHANICS AND REPAIRMEN	0.040
OTHER MECHS & REPAIRMEN	0.040
OPERATIVES & KINDRED	0.040
TRANSP & PUB UTIL OPER	0.040
TRANS EQUIP OPER NEC	0.040
LABORERS,EXC FARM	0.040
CONSTRUCTION LABORERS	0.040

TABLE 2

PROGRAM: CIVIL TECH.

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.120
PART TIME COLLEGE	0.000
MILITARY	0.160
OTHER	0.000
PARTICIPATION RATE	0.720
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
PROFESSIONAL,TECH,KINDRED	1.000
ENGINEERS TECHNICAL	0.278
ENGINEERS CIVIL	0.278
TECH,EXC. MEDICAL & DENTAL	0.722
DRAFTSMEN	0.056
SURVEYORS	0.667

11. ELECTRICAL/ELECTRONICS PROGRAMS

The Electrical/Electronics Programs, which include the two programs--Electrical Technology and Electronics Technology, was offered by all three institutional types. A total of 413 returns were received from the graduates of the private proprietary schools. From the Community College graduates, 64 returns were received. Because only 13 graduates from the Penn State Campuses responded, the results from this group were not considered significant. For this reason, no effort has been made to analyze the results for those graduates.

For both the graduates of the Community Colleges and the private proprietary schools, the unemployment rate was about 12%. This would seem to indicate a relatively low demand for this particular type of skill at this time. This is further borne out by the fact that only 47% of the Community College graduates and 38% of the private proprietary school graduates found work in the following related occupations:

a. Engineers, Electrical
b. Engineers, Sales
c. Other Engineers
d. Electricians
e. Radio and TV Mechanics

Based on these findings, it would appear that a reevaluation of this program would be in order, in an effort to uncover factors that perhaps would alleviate this imbalance in the occupational supply/demand system.

TABLE 2

PROGRAM: ELECTRICAL/ELECTRONICS TECH

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.109
PART TIME COLLEGE	0.016
MILITARY	0.109
OTHER	0.000
PARTICIPATION RATE	0.766
UNEMPLOYMENT RATE	0.122
EMPLOYMENT TOTAL	0.878
MANAGERS,OFFICIALS,PROPR.	0.061
PROFESSIONAL,TECH,KINDRED	0.592
TEACHERS	0.020
TEACHERS COLLEGE	0.020
ENGINEERS TECHNICAL	0.429
ENGINEERS ELECTRICAL	0.367
OTHER ENGINEERS,TECHNICAL	0.061
TECH,EXC MEDICAL & DENTAL	0.143
SURVEYORS	0.020
TECHNICIANS,OTHER	0.122
CLERICAL & KINDRED	0.061
INS ADJTRS,EXAM & INVEST	0.020
STOCK CLRKS & STOREKPRS	0.020
OTHER CLERICAL	0.020
CRAFTSMEN & KINDRED	0.082
CONSTRUCTION CRAFTSMEN	0.041
CARPENTERS	0.020
ELECTRICIANS	0.020
METALWRKING CRAFTSMEN	0.020
MACHINISTS & RELATED	0.020
MECHANICS AND REPAIRMEN	0.020
RADIO AND TV MECHANICS	0.020
OPERATIVES & KINDRED	0.061
SEMISKILLED METALWRKNG	0.041
MACHINE TOOL OPERS	0.020
PRECISION MACHINE NEC	0.020
MISC METAL WORK OPER	0.020
OTHER OPERATIVES	0.020
MEAT CUTTERS,MFG	0.020
FARM LABORERS & FOREMEN	0.020
FARM LABORERS,WAGE	0.020

TABLE 2

PROGRAM: ELECTRICAL/ELECTRONICS TECH .

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.308
PART TIME COLLEGE	0.000
MILITARY	0.077
OTHER	0.000
PARTICIPATION RATE	0.615
UNEMPLOYMENT RATE	0.125
EMPLOYMENT TOTAL	0.875
PROFESSIONAL,TECH,KINDRED	0.750
NATURAL SCIENTISTS	0.125
BIOLOGICAL SCIENTISTS	0.125
ENGINEERS TECHNICAL	0.500
ENGINEERS ELECTRICAL	0.500
TECH,EXC MEDICAL & DENTAL	0.125
TECHNICIANS,OTHER	0.125
CRAFTSMEN & KINDRED	0.125
CONSTRUCTION CRAFTSMEN	0.125
ELECTRICIANS	0.125

TABLE 2

PROGRAM: ELECTRICAL/ELECTRONICS TECH

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.005
FULL TIME COLLEGE	0.022
PART TIME COLLEGE	0.000
MILITARY	0.150
OTHER	0.000
PARTICIPATION RATE	0.823
UNEMPLOYMENT RATE	0.127
EMPLOYMENT TOTAL	0.873
MANAGERS,OFFICIALS,PROPR.	0.038
PROFESSIONAL,TECH,KINDRED	0.507
OTHER PROF,TECH,KINDRED	0.012
PROF,TECH,KINDRED NEC	0.012
ENGINEERS TECHNICAL	0.351
ENGINEERS ELECTRICAL	0.274
SALES	0.032
OTHER ENGINEERS,TECHNICAL	0.029
TECH,EXC MEDICAL & DENTAL	0.142
TECHNICIANS,OTHER	0.121
SALES WORKERS	0.012
SALESMEN & S CLERKS NEC	0.012
CLERICAL & KINDRED	0.032
STOCK CLRKS & STOREKPRS	0.012
CRAFTSMEN & KINDRED	0.112
CONSTRUCTION CRAFTSMEN	0.032
ELECTRICIANS	0.032
METALWRKING CRAFTSMEN	0.012
MECHANICS AND REPAIRMEN	0.044
RADIO AND TV MECHANICS	0.015
OTHER MECHS & REPAIRMEN	0.024
OTHER CRAFTSMEN	0.024
OPERATIVES & KINDRED	0.080
CONSTRUCTION OPERATIVES	0.015
CONSTRU OPER NEC	0.015
SEMISKILLED METALWRKNG	0.024
MACHINE TOOL OPERS	0.015
OTHER OPERATIVES	0.029
ASSEMBLERS	0.021
LABORERS,EXC FARM	0.077
WAREHOUSEMEN,NEC	0.012
MISC LABORERS	0.059
SERVICE WORKERS	0.015

12. DRAFTING/DESIGN TECHNOLOGY

The Drafting/Design Technology program was offered by all three types of postsecondary institutions. The usable returns upon which the results are based were:

Institution	Returns
Community Colleges	33
Penn State University Campuses	164
Private Proprietary Schools	50

Since the number of returns from the Community College graduates was fairly low, the results for that group should be viewed with some reservation.

Overall, the Penn State Campus graduates seemed to have faired better than the graduates from the other institutions. About 63% found jobs in the following related occupations:

a. Designers
b. Draftsmen
c. Surveyors
d. Civil Engineering
e. Mechanical Engineering

For the Community College graduates, 29% and about 36% of the private proprietary school graduates found jobs in these occupations. The difference appear large enough to warrant reevaluation of this program by both the community colleges and the private proprietary schools.

TABLE 2

PROGRAM: DRAFTING/DESIGN TECH

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.182
PART TIME COLLEGE	0.000
MILITARY	0.091
OTHER	0.000
PARTICIPATION RATE	0.727
UNEMPLOYMENT RATE	0.083
EMPLOYMENT TOTAL	0.917
PROFESSIONAL,TECH,KINDRED	0.458
OTHER PROF,TECH,KINDRED	0.042
PROF,TECH,KINDRED NEC	0.042
ENGINEERS TECHNICAL	0.167
ENGINEERS MECHANICAL	0.042
SALES	0.042
OTHER ENGINEERS,TECHNICAL	0.083
TECH,EXC MEDICAL & DENTAL	0.250
DESIGNERS	0.042
DRAFTSMEN	0.167
SURVEYORS	0.042
CLERICAL & KINDRED	0.167
ESTIM & INVESTIGATORS	0.083
INS ADJTRS,EXAM & INVEST	0.042
STOCK CLRKS & STOREKPRS	0.042
CRAFTSMEN & KINDRED	0.125
CONSTRUCTION CRAFTSMEN	0.042
ELECTRICIANS	0.042
METALWRKING CRAFTSMEN	0.042
MACHINISTS & RELATED	0.042
OTHER CRAFTSMEN	0.042
CRAFTSMEN NEC	0.042
OPERATIVES & KINDRED	0.083
CONSTRUCTION OPERATIVES	0.042
CONSTRU OPER NEC	0.042
TRANSP & PUB UTIL OPER	0.042
DELIVERYMEN,ROUTEMEN	0.042
LABORERS,EXC FARM	0.083
NURSERYMEN	0.042
MISC LABORERS	0.042

TABLE 2

PROGRAM: DRAFTING/DESIGN TECH

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.006
FULL TIME COLLEGE	0.341
PART TIME COLLEGE	0.000
MILITARY	0.049
OTHER	0.000
PARTICIPATION RATE	0.604
UNEMPLOYMENT RATE	0.061
EMPLOYMENT TOTAL	0.939
MANAGERS,OFFICIALS,PROPR.	0.030
PROFESSIONAL,TECH,KINDRED	0.687
ENGINEERS TECHNICAL	0.141
ENGINEERS CIVIL	0.020
ENGINEERS MECHANICAL	0.081
OTHER ENGINEERS,TECHNICAL	0.040
TECH,EXC MEDICAL & DENTAL	0.545
DESIGNERS	0.232
DRAFTSMEN	0.273
SURVEYORS	0.020
TECHNICIANS,OTHER	0.020
CLERICAL & KINDRED	0.010
INS ADJTRS,EXAM & INVESI	0.010
CRAFTSMEN & KINDRED	0.131
CONSTRUCTION CRAFTSMEN	0.020
CEMENT & CONCRETE FINISH	0.010
INSPECTORS,CONSTRUCTION	0.010
METALWRKING CRAFTSMEN	0.051
HEAT TREATRS & ANNEALRS	0.020
MACHINISTS & RELATED	0.010
TOOL & DIEMAKERS	0.020
MECHANICS AND REPAIRMEN	0.020
OTHER MECHS & REPAIRMEN	0.020
OTHER CRAFTSMEN	0.040
DECOR & WINDOW DRESSERS	0.010
CRAFTSMEN NEC	0.030
OPERATIVES & KINDRED	0.040
SEMISKILLED METALWRKNG	0.020
MACHINE TOOL OPERS	0.020
PRECISION MACHINE NEC	0.020
TRANSP & PUB UTIL OPER	0.010
TRUCK DRIVERS	0.010
OTHER OPERATIVES	0.010
ASSEMBLERS	0.010
LABORERS,EXC FARM	0.030
STOCKHANDLERS	0.010
MISC LABORERS	0.020
SERVICE WORKERS	0.010
PROTECTIVE SERVICE	0.010
POLICEMEN,DETECTIVES,ETC	0.010

TABLE 2

PROGRAM: DRAFTING/DESIGN TECH

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.040
PART TIME COLLEGE	0.000
MILITARY	0.180
OTHER	0.000
PARTICIPATION RATE	0.780
UNEMPLOYMENT RATE	0.128
EMPLOYMENT TOTAL	0.872
MANAGERS,OFFICIALS,PROPR.	0.051
PROFESSIONAL,TECH,KINDRED	0.359
TECH,EXC MEDICAL & DENTAL	0.359
DESIGNERS	0.026
DRAFTSMEN	0.333
CLERICAL & KINDRED	0.051
STOCK CLRKS & STOREKPRS	0.026
OTHER CLERICAL	0.026
CRAFTSMEN & KINDRED	0.051
METALWRKING CRAFTSMEN	0.026
MACHINISTS & RELATED	0.026
MECHANICS AND REPAIRMEN	0.026
OTHER MECHS & REPAIRMEN	0.026
OPERATIVES & KINDRED	0.128
CONSTRUCTION OPERATIVES	0.026
OILERS & GREASERS	0.026
SEMISKILLED METALWRKNG	0.103
MACHINE TOOL OPERS	0.051
GRINDING MACHINE	0.026
PRECISION MACHINE NEC	0.026
MISC METAL WORK OPER	0.051
LABORERS,EXC FARM	0.179
CARPENTERS' HELPERS	0.051
STOCKHANDLERS	0.026
MISC LABORERS	0.103
FARMERS & FARM MANAGERS	0.051
FARMERS	0.026
FARM MANAGERS	0.026

13. ARCHITECT TECHNOLOGY PROGRAMS

This program, which includes the Architect Tech./Building Construction and Architect Technology programs, was only offered by the Community Colleges. Since only 25 usable returns were received from the graduates of these programs, the results were not discussed. However, the table was included so that the reader would be able to view the analysis of the data from these returns.

TABLE 2

PROGRAM: ARCHITECT TECH. PROGS.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.040
PART TIME COLLEGE	0.000
MILITARY	0.160
OTHER	0.000
PARTICIPATION RATE	0.800
UNEMPLOYMENT RATE	0.100
EMPLOYMENT TOTAL	0.900
PROFESSIONAL,TECH,KINDRED	0.400
ENGINEERS TECHNICAL	0.150
ENGINEERS CIVIL	0.050
OTHER ENGINEERS,TECHNICAL	0.100
TECH,EXC MEDICAL & DENTAL	0.250
DRAFTSMEN	0.200
TECHNICIANS,OTHER	0.050
SALES WORKERS	0.050
SALESMEN & S CLERKS NEC	0.050
CLERICAL & KINDRED	0.200
ESTIM & INVESTIGATORS	0.150
TYPISTS	0.050
CRAFTSMEN & KINDRED	0.050
CONSTRUCTION CRAFTSMEN	0.050
CARPENTERS	0.050
OPERATIVES & KINDRED	0.050
SEMISKILLED METALWRKNG	0.050
MACHINE TOOL OPERS	0.050
PRECISION MACHINE NEC	0.050
LABORERS,EXC FARM	0.100
CONSTRUCTION LABORERS	0.050
WAREHOUSEMEN,NEC	0.050
SERVICE WORKERS	0.050
PROTECTIVE SERVICE	0.050
GUARDS,WATCHMEN	0.050

14. TOOL/DIE PROGRAMS

Included under this heading were the graduates from the Tool/Die Design and Tool and Die Technology programs. Although these programs were offered at all three types of institutions, the actual number of usable returns were less than 20. For this reason, the results tabulated in the accompanying tables were not discussed. Since the data was analyzed anyway the three tables were included so that the reader would be able to view the results

TABLE 2

PROGRAM: TOOL/DIE TECH. PROGS.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.063
PART TIME COLLEGE	0.000
MILITARY	0.063
OTHER	0.000
PARTICIPATION RATE	0.875
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
PROFESSIONAL,TECH,KINDRED	0.143
TEACHERS	0.071
TEACHERS OTHER	0.071
TECH,EXC MEDICAL & DENTAL	0.071
DESIGNERS	0.071
CLERICAL & KINDRED	0.071
SHIP & RECEIV CLRKS	0.071
CRAFTSMEN & KINDRED	0.429
METALWRKING CRAFTSMEN	0.357
MACHINISTS & RELATED	0.071
MILLWRIGHTS	0.071
TOOL & DIEMAKERS	0.214
MECHANICS AND REPAIRMEN	0.071
OTHER MECHS & REPAIRMEN	0.071
OPERATIVES & KINDRED	0.071
SEMISKILLED METALWRKNG	0.071
MACHINE TOOL OPERS	0.071
LATHE AND MILL MACHINE	0.071
LABORERS,EXC FARM	0.286
CARPENTERS' HELPERS	0.071
MISC LABORERS	0.214

TABLE 2

PROGRAM: TOOL/DIE TECH. PROGS.

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	1.000
UNEMPLOYMENT RATE	0.143
EMPLOYMENT TOTAL	0.857
PROFESSIONAL,TECH,KINDRED	0.143
ENGINEERS TECHNICAL	0.143
OTHER ENGINEERS,TECHNICAL	0.143
CRAFTSMEN & KINDRED	0.571
METALWRKING CRAFTSMEN	0.571
MACHINISTS & RELATED	0.429
TOOL & DIEMAKERS	0.143
OPERATIVES & KINDRED	0.143
SEMISKILLED METALWRKNG	0.143
MACHINE TOOL OPERS	0.143
GRINDING MACHINE	0.143

TABLE 2

PROGRAM: TOOL/DIE TECH. PROGS.

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	1.000
UNEMPLOYMENT RATE	0.111
EMPLOYMENT TOTAL	0.889
PROFESSIONAL,TECH,KINDRED	0.667
TECH,EXC MEDICAL & DENTAL	0.667
DESIGNERS	0.111
DRAFTSMEN	0.556
CRAFTSMEN & KINDRED	0.111
CONSTRUCTION CRAFTSMEN	0.111
CEMENT & CONCRETE FINISH	0.111
LABORERS,EXC FARM	0.111
MISC LABORERS	0.111

15. FORESTRY TECHNOLOGY

This program generally has a small enrollment, and as a result, the number of usable returns received was 18 from the Community College graduates and 23 from the Penn State Campus graduates. This program was not offered by the private proprietary schools. Because the number of returns was so small, the results should be viewed with caution.

As it can be seen in the accompanying tables, most of the Community College graduates (94.4%) entered the labor force while only 52.2% did so from the Penn State Campuses. For those graduates who did enter the labor force, it can be seen that almost all of the Community College graduates found unrelated jobs in the general areas of:

a.	Managers, Officials & Proprietors	5.9%
b.	Craftsmen & Kindred	41.2%
c.	Operatives	5.9%
d.	Laborers, Except Farm	29.4%
e.	Farmers & Farm Managers	5.9%
		88.3%

On the basis of these results, the Community Colleges might reevaluate this program since only a small percentage of graduates was able to find work related to the program of study.

For the graduates of the Penn State Campuses, at least half of the graduates found unrelated jobs or were unemployed at the time the survey was taken. These results seems to point out that the supply is greater than the demand for this type of graduate. Therefore, all postsecondary institutions would do well to reexamine the Forestry Technology program in an attempt to reduce this imbalance.

TABLE 2

PROGRAM: FORESTRY TECH

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.056
OTHER	0.000
PARTICIPATION RATE	0.944
UNEMPLOYMENT RATE	0.059
EMPLOYMENT, TOTAL	0.941
MANAGERS,OFFICIALS,PROPR.	0.059
PROFESSIONAL,TECH,KINDRED	0.059
NATURAL SCIENTISTS	0.059
BIOLOGICAL SCIENTISTS	0.059
CRAFTSMEN & KINDRED	0.412
CONSTRUCTION CRAFTSMEN	0.059
CARPENTERS	0.059
METALWRKING CRAFTSMEN	0.059
MACHINISTS & RELATED	0.059
PRINTING TRADES CRAFTS	0.059
ELECTRO & STEREOTYPRS	0.059
OTHER CRAFTSMEN	0.235
CRAFTSMEN NEC	0.235
OPERATIVES & KINDRED	0.059
OTHER OPERATIVES	0.059
OPERATIVES NEC	0.059
LABORERS,EXC FARM	0.294
CONSTRUCTION LABORERS	0.176
NURSERYMEN	0.059
MISC LABORERS	0.059
FARMERS & FARM MANAGERS	0.059
FARM MANAGERS	0.059

TABLE 2

PROGRAM: FORESTRY TECH

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.435
PART TIME COLLEGE	0.000
MILITARY	0.043
OTHER	0.000
PARTICIPATION RATE	0.522
UNEMPLOYMENT RATE	0.250
EMPLOYMENT TOTAL	0.750
PROFESSIONAL,TECH,KINDRED	0.500
NATURAL SCIENTISTS	0.250
BIOLOGICAL SCIENTISTS	0.250
OTHER PROF,TECH,KINDRED	0.083
PROF,TECH,KINDRED NEC	0.083
TECH,EXC MEDICAL & DENTAL	0.167
TECHNICIANS,OTHER	0.167
OPERATIVES & KINDRED	0.083
OTHER OPERATIVES	0.083
OPERATIVES NEC	0.083
LABORERS,EXC FARM	0.167
MISC LABORERS	0.167

16. TECHNOLOGY, OTHER

Included under this heading are the following programs:

a. Chemical Technology
b. Fire/Emergency Service
c. Instrumentation
d. Materials Technology
e. Communications
f. Quality Control
g. Pre-Technology

Due to the diversity of the programs included in this group, no attempt has been made to determine which jobs are highly related to the training received.

A total of 32 usable returns were received from the Community College graduates and 45 were received from the Penn State Campus graduates. These programs were not offered by the private proprietary schools. As it can be seen from the accompanying tables, 25% of the Community College graduates and 20% of the Penn State Campus graduates continued their education full-time. For those graduates from the Community Colleges that did enter the labor force, the unemployment rate was the highest of all the 28 programs. This data indicates that there is either a limited need for graduates with this type of training or that the industry requires more than two years of training for the types of jobs these graduates sought. For the Penn State Campus graduates, the unemployment rate was lower, 6.7% and about 23% found jobs in completely unrelated areas such as:

a.	Clerical	3.3%
b.	Laborers	3.3%
c.	Sales Workers	6.7%
d.	Operatives	10.0%
		23.3%

Unfortunately, because the programs were combined, it is difficult to determine which graduates from what program had the most difficulty in finding work related to their training.

TABLE 2

PROGRAM: TECHNOLOGY, OTHER

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.250
PART TIME COLLEGE	0.000
MILITARY	0.031
OTHER	0.000
PARTICIPATION RATE	0.719
UNEMPLOYMENT RATE	0.217
EMPLOYMENT TOTAL	0.783
PROFESSIONAL,TECH,KINDRED	0.391
OTHER PROF,TECH,KINDRED	0.174
EDITORS AND REPORTERS	0.174
ENGINEERS TECHNICAL	0.087
ENGINEERS CHEMICAL	0.043
OTHER ENGINEERS,TECHNICAL	0.043
TECH,EXC MEDICAL & DENTAL	0.087
TECHNICIANS,OTHER	0.087
TECH,MEDICAL AND DENTAL	0.043
HEALTH TECH & TECH NEC	0.043
CLERICAL & KINDRED	0.087
SECRETARIES	0.043
TYPISTS	0.043
LABORERS,EXC FARM	0.087
ANIMAL CARETAKERS	0.043
CONSTRUCTION LABORERS	0.043
SERVICE WORKERS	0.217
OTHER SERVICE WORKERS	0.043
OTHER SERVICE WKRS	0.043
PROTECTIVE SERVICE	0.174
FIREMEN	0.174

TABLE 2

PROGRAM: TECHNOLOGY, OTHER

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.022
FULL TIME COLLEGE	0.200
PART TIME COLLEGE	0.000
MILITARY	0.111
OTHER	0.000
PARTICIPATION RATE	0.667
UNEMPLOYMENT RATE	0.067
EMPLOYMENT TOTAL	0.933
MANAGERS,OFFICIALS,PROPR.	0.067
PROFESSIONAL,TECH,KINDRED	0.467
NATURAL SCIENTISTS	0.033
CHEMISTS	0.033
OTHER PROF,TECH,KINDRED	0.067
EDITORS AND REPORTERS	0.033
PROF,TECH,KINDRED NEC	0.033
ENGINEERS TECHNICAL	0.167
ENGINEERS CHEMICAL	0.100
OTHER ENGINEERS,TECHNICAL	0.067
TECH,EXC MEDICAL & DENTAL	0.067
TECHNICIANS,OTHER	0.067
TECH,MEDICAL AND DENTAL	0.133
HEALTH TECH & TECH NEC	0.133
SALES WORKERS	0.067
SALESMEN & S CLERKS NEC	0.067
CLERICAL & KINDRED	0.033
OTHER CLERICAL	0.033
CRAFTSMEN & KINDRED	0.100
METALWRKING CRAFTSMEN	0.100
MACHINISTS & RELATED	0.100
OPERATIVES & KINDRED	0.100
SEMISKILLED METALWRKNG	0.067
MACHINE TOOL OPERS	0.067
PRECISION MACHINE NEC	0.067
OTHER OPERATIVES	0.033
ASSEMBLERS	0.033
LABORERS,EXC FARM	0.033
STOCKHANDLERS	0.033
SERVICE WORKERS	0.067
OTHER SERVICE WORKERS	0.067
ATTEND,RECRE & AMUS	0.033
ATTENDENTS NEC	0.033

TABLE 2

PROGRAM: TECHNOLOGY, OTHER

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.250
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	0.750
UNEMPLOYMENT RATE	0.333
EMPLOYMENT TOTAL	0.667
PROFESSIONAL,TECH,KINDRED	0.333
ENGINEERS TECHNICAL	0.333
ENGINEERS METALLURGICAL	0.333
OPERATIVES & KINDRED	0.333
SEMISKILLED METALWRKNG	0.333
WELDERS & FLAME CUTTRS	0.333

17. DATA PROCESSING PROGRAMS

Included under this heading are the following specific programs:

a. Data Processing Equipment
b. Data Processing Machine Operator
c. Data Processing Equipment Maintenance
d. Data Processing Program
e. Scientific Data Processing

None of these programs were offered at the Penn State Campuses. The usable returns received from the Community College graduates numbered 78. From the private proprietary school graduates, 238 returns were received. Of the Community College graduates, about 80% entered the labor force. The rest entered the military (7.7%) or continued their education full-time (12.8%). Although the unemployment rate was high (8.1%), about 42% of the graduates found work directly related to their training as computer programmers, computer and console operators or as keypunch operators. The other 50% found unrelated jobs. Of those graduates from the private proprietary schools entering the labor force, about 23% were unemployed at the time of the survey and only 28% found jobs as computer programmers or as keypunch operators. Considering the unemployment rates and the percentage employed in other areas, program planners perhaps should reevaluate these programs for subsequent program improvement that would alleviate this problem.

TABLE 2

PROGRAM: DATA PROCESSING

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.128
PART TIME COLLEGE	0.000
MILITARY	0.077
OTHER	0.000
PARTICIPATION RATE	0.795
UNEMPLOYMENT RATE	0.081
EMPLOYMENT TOTAL	0.919
MANAGERS,OFFICIALS,PROPR.	0.097
PROFESSIONAL,TECH,KINDRED	0.419
OTHER PROF,TECH,KINDRED	0.065
ACCOUNTANTS AND AUDITORS	0.048
CLERGYMEN	0.016
TECH,EXC MEDICAL & DENTAL	0.355
COMPUTER PROGRAMMERS	0.355
SALES WORKERS	0.048
SALESMEN & S CLERKS NEC	0.048
CLERICAL & KINDRED	0.210
BILLING CLERKS	0.016
BOOKKEEPERS,HAND	0.032
INS ADJTRS,EXAM & INVEST	0.032
COPUTER & CONSOLE OPER	0.016
KEYPUNCH OPERATORS	0.048
PAYROLL CLERKS	0.016
SECRETARIES	0.016
STOCK CLRKS & STOREKPRS	0.016
OTHER CLERICAL	0.016
CRAFTSMEN & KINDRED	0.032
METALWRKING CRAFTSMEN	0.016
MILLWRIGHTS	0.016
OTHER CRAFTSMEN	0.016
CRAFTSMEN NEC	0.016
OPERATIVES & KINDRED	0.032
SEMISKILLED METALWRKNG	0.016
WELDERS & FLAME CUTTRS	0.016
OTHER OPERATIVES	0.016
OPERATIVES NEC	0.016
LABORERS,EXC FARM	0.081
MISC LABORERS	0.081

TABLE 2

PROGRAM: DATA PROCESSING

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.008
FULL TIME COLLEGE	0.051
PART TIME COLLEGE	0.000
MILITARY	0.063
OTHER	0.021
PARTICIPATION RATE	0.857
UNEMPLOYMENT RATE	0.227
EMPLOYMENT TOTAL	0.773
MANAGERS,OFFICIALS,PROPR.	0.034
PROFESSIONAL,TECH,KINDRED	0.246
OTHER PROF,TECH,KINDRED	0.015
ENGINEERS TECHNICAL	0.015
TECH,EXC MEDICAL & DENTAL	0.207
COMPUTER PROGRAMMERS	0.197
SALES WORKERS	0.034
SALESMEN & S CLERKS NEC	0.030
CLERICAL & KINDRED	0.335
BOOKKEEPERS,HAND	0.015
KEYPUNCH OPERATORS	0.084
OFF MACH OPER NEC	0.020
SECRETARIES	0.030
TYPISTS	0.030
OTHER CLERICAL	0.074
CRAFTSMEN & KINDRED	0.030
MECHANICS AND REPAIRMEN	0.015
OPERATIVES & KINDRED	0.039
TRANSP & PUB UTIL OPER	0.015
OTHER OPERATIVES	0.015
LABORERS,EXC FARM	0.039
MISC LABORERS	0.030
SERVICE WORKERS	0.015

18. DENTAL PROGRAMS

This is a combination of the Dental Assisting and the Dental Hygiene programs which are offered only at the Community Colleges. From the graduates of these programs, 26 usable returns were received. Of that group, everyone entered the labor force and none were unemployed at the time of the survey.

If it is assumed that only the occupations--dental assistants and dental hygienists are related to the training received, then it can be seen that about 81% of the graduates found directly related jobs. Another 4% found slightly related work as health workers. Based on these findings, it appears that there is a demand by industry for this type of training.

TABLE 2

PROGRAM: DENTAL PROGRAMS

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	1.000
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
PROFESSIONAL,TECH,KINDRED	0.846
MED.& OTHER HEALTH WKRS	0.038
OTHER MEDICAL & HEALTH	0.038
OTHER MED & HEALTH WKRS	0.808
DENTAL ASSISTANTS	0.423
DENTAL HYGIENISTS	0.385
CLERICAL & KINDRED	0.115
PROOFREADERS	0.038
STENOGRAPHERS	0.038
OTHER CLERICAL	0.038
OPERATIVES & KINDRED	0.038
SEMISKILLED METALWRKNG	0.038
MACHINE TOOL OPERS	0.038
PRECISION MACHINE NEC	0.038

19. NURSING (ASSOC. DEGREE) PROGRAM

The Nursing program, which was only offered at the Community Colleges, was the most successful of all the programs in terms of the graduates finding employment related to their previous training. Of the 182 usable returns received, about 5.3% never entered the labor force because they continued their education or for some other undetermined reason. Of those that did enter the labor force, all except 1.7% found jobs either as a professional nurse or a practical nurse. Based on these findings, it can be seen that there is a demand for persons with this type of training. Also, because a license is necessary before entering these two jobs, by implication it can be concluded that the community colleges are doing an adequate job in preparing the graduates.

TABLE 2

PROGRAM: NURSING(ASSOC. DG.)

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.005
FULL TIME COLLEGE	0.011
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.037
PARTICIPATION RATE	0.947
UNEMPLOYMENT RATE	0.017
EMPLOYMENT TOTAL	0.983
PROFESSIONAL,TECH,KINDRED	0.977
TECH,MEDICAL AND DENTAL	0.469
NURSES,PROFESSIONAL	0.469
OTHER MED & HEALTH WKRS	0.508
PRACTICAL NURSES,LIC	0.503

20. MEDICAL PROGRAMS, OTHER

Included under this general heading are the following programs:

a. Medical Lab Technician
b. Occupational Therapy Asst.
c. Physical Therapy
d. Environmental Health
e. Mental Health Technician
f. Inhalation Therapy
g. Medical Assistant
h. Medical Records Technician

These programs were combined because the number of graduates from any one program was relatively small and individual results would have been difficult to interpret. Since these programs were only offered by the Community Colleges, the following discussion will pertain only to those graduates.

As it can be seen in the accompanying table, about 38% of the 117 graduates who returned the survey forms continued their education full-time. This is probably due in part to the fact that there is an inverse relationship between the unemployment rate and the labor force participation rate.

Those graduates that did enter the labor force also appeared to have had difficulty in finding jobs directly related to the health training received. As it can be seen in the accompanying table, about 63% of the graduates found jobs as medical and dental technicians. The rest were either unemployed (12%) or in unrelated jobs (25%). In view of these findings, it appears that the demand for the specialized skills learned in these programs is low relative to the demand for other medical skills. For this reason, it is suggested that the community colleges offering these programs communicate with the various health institutions in their area so as to determine where the demand actually exists for graduates of these types of programs.

TABLE 2

PROGRAM: MEDICAL PROGS, OTHER

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.009
FULL TIME COLLEGE	0.376
PART TIME COLLEGE	0.009
MILITARY	0.009
OTHER	0.026
PARTICIPATION RATE	0.573
UNEMPLOYMENT RATE	0.119
EMPLOYMENT TOTAL	0.881
PROFESSIONAL,TECH,KINDRED	0.701
TEACHERS	0.030
TEACHERS OTHER	0.030
OTHER PROF,TECH,KINDRED	0.015
PROF,TECH,KINDRED NEC	0.015
ENGINEERS TECHNICAL	0.030
OTHER ENGINEERS,TECHNICAL	0.030
TECH,MEDICAL AND DENTAL	0.373
HEALTH TECH & TECH NEC	0.373
OTHER MED & HEALTH WKRS	0.254
DENTAL ASSISTANTS	0.015
HEALTH AIDES,EXC NURSE	0.060
PRACTICAL NURSES,LIC	0.045
THERAPY ASSISTANTS	0.134
CLERICAL & KINDRED	0.164
BOOKKEEPERS,HAND	0.015
HEALTH RECORD CLERKS	0.015
INS ADJTRS,EXAM & INVEST	0.015
OFF MACH OPER NEC	0.015
SECRETARIES	0.075
TYPISTS	0.015
OTHER CLERICAL	0.015
SERVICE WORKERS	0.015
OTHER SERVICE WORKERS	0.015
CHILD CARE WORKERS	0.015

TABLE 2

PROGRAM: MEDICAL PROGS, OTHER

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.111
PARTICIPATION RATE	0.889
UNEMPLOYMENT RATE	0.250
EMPLOYMENT TOTAL	0.750
PROFESSIONAL,TECH,KINDRED	0.125
TECH,MEDICAL AND DENTAL	0.125
HEALTH TECH & TECH NEC	0.125
CLERICAL & KINDRED	0.625
SECRETARIES	0.500
STENOGRAPHERS	0.125

21. ACCOUNTANTS/BOOKKEEPER PROGRAM

All three postsecondary institutions offered this program. The number of usable returns received were:

Institution	Returns
Community Colleges	78
Penn State Campuses	4
Private Proprietary	139

Because the number of returns from The Pennsylvania State University Campuses was low, the results for that group are not presented.

In reviewing the results for the Community College graduates, it can be seen that about 68% of the graduates entered the labor force. The rest went to college full-time (16%), entered the military (9%) or for some other reason did not go to work. For those that did enter the labor force, 7.5% were unemployed at the time of the survey. This rate is slightly higher than that found for the other Community College graduates. Assuming that the following occupations are related to this program:

a. Accountants and Auditors
b. Billing Clerks
c. Bookkeepers
d. Payroll
e. Bank Tellers
f. Expeditors and Production Control
g. Insurance Adjusters

then, about 62% of the graduates found related jobs. The graduates from the private proprietary schools showed an unemployment rate somewhat higher (8.3%) with 44.6% of the graduates finding jobs in the above categories. Of that group, only a 7.2% continued their education full-time and 4.3% entered the military.

In summary, the data indicates that the community college graduates gained entry into related occupations at a somewhat higher rate than the private school graduates.

TABLE 2

PROGRAM: ACCOUNTANT/BOOKKEEPER

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.013
FULL TIME COLLEGE	0.167
PART TIME COLLEGE	0.013
MILITARY	0.090
OTHER	0.038
PARTICIPATION RATE	0.679
UNEMPLOYMENT RATE	0.075
EMPLOYMENT TOTAL	0.925
MANAGERS,OFFICIALS,PROPR.	0.038
PROFESSIONAL,TECH,KINDRED	0.340
OTHER PROF,TECH,KINDRED	0.321
ACCOUNTANTS AND AUDITORS	0.321
TECH,MEDICAL AND DENTAL	0.019
HEALTH TECH & TECH NEC	0.019
SALES WORKERS	0.019
SALESMEN & S CLERKS NEC	0.019
CLERICAL & KINDRED	0.415
BANK TELLERS	0.038
BILLING CLERKS	0.075
BOOKKEEPERS,HAND	0.094
EXPEDTERS & PROD CONTROL	0.019
INS ADJTRS,EXAM & INVEST	0.019
PAYROLL CLERKS	0.057
SECRETARIES	0.019
OTHER CLERICAL	0.094
CRAFTSMEN & KINDRED	0.038
CONSTRUCTION CRAFTSMEN	0.019
PLASTERERS	0.019
PRINTING TRADES CRAFTS	0.019
PRESSMN & PLATE PRINT	0.019
OPERATIVES & KINDRED	0.019
SEMISKILLED METALWRKNG	0.019
MACHINE TOOL OPERS	0.019
PRECISION MACHINE NEC	0.019
LABORERS,EXC FARM	0.057
MISC LABORERS	0.057

TABLE 2

PROGRAM: ACCOUNTANT/BOOKKEEPER

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	1.000
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
PROFESSIONAL,TECH,KINDRED	0.500
OTHER PROF,TECH,KINDRED	0.500
ACCOUNTANTS AND AUDITORS	0.500
CLERICAL & KINDRED	0.500
BANK TELLERS	0.250
OTHER CLERICAL	0.250

TABLE 2

PROGRAM: ACCOUNTANT/BOOKKEEPER

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.072
PART TIME COLLEGE	0.000
MILITARY	0.043
OTHER	0.007
PARTICIPATION RATE	0.877
UNEMPLOYMENT RATE	0.083
EMPLOYMENT TOTAL	0.917
MANAGERS,OFFICIALS,PROPR.	0.107
PROFESSIONAL,TECH,KINDRED	0.223
OTHER PROF,TECH,KINDRED	0.182
ACCOUNTANTS AND AUDITORS	0.165
PROF,TECH,KINDRED NEC	0.017
TECH,EXC MEDICAL & DENTAL	0.033
COMPUTER PROGRAMMERS	0.025
SALES WORKERS	0.041
ADVER AGENTS & SALESMEN	0.017
SALESMEN & S CLERKS NEC	0.025
CLERICAL & KINDRED	0.521
BANK TELLERS	0.083
BILLING CLERKS	0.074
BOOKKEEPERS,HAND	0.099
COLLECTORS,BILL	0.017
OFF MACH OPER NEC	0.017
PAYROLL CLERKS	0.025
RECEPTIONISTS	0.017
SECRETARIES	0.041
TYPISTS	0.025
OTHER CLERICAL	0.083

22. BUSINESS DATA PROCESSING PROGRAM

The Business Data Processing program was offered in all three postsecondary institutions. However, because the number of returns from The Pennsylvania State University graduates numbered less than ten, they will not be discussed. From the Community College graduates, there were 63 returns and 44 from the Private Proprietary School graduates.

As seen in the accompanying tables, both types of graduates from this program were primarily oriented to entering the labor force rather than continuing their training. Although the unemployment rate for the Community College graduates was 7.3, the Private Proprietary School graduates experienced a higher rate of 21.6%. In addition, whereas 49% of the Community College graduates found work as computer programmers, only about 19% did so from the Private Proprietary schools. The rest of the graduates found unrelated jobs.

It would appear, then, that the Community College graduates in general were more successful when entering the labor force than the other graduates. However, the high percent entering unrelated occupations clearly indicates that there is only a limited demand by industry for this type of skill. It is therefore recommended that all postsecondary institutions reevaluate this program.

TABLE 2

PROGRAM: BUSINESS DATA PROCESSING

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.095
PART TIME COLLEGE	0.000
MILITARY	0.016
OTHER	0.016
PARTICIPATION RATE	0.873
UNEMPLOYMENT RATE	0.073
EMPLOYMENT TOTAL	0.927
MANAGERS,OFFICIALS,PROPR.	0.055
PROFESSIONAL,TECH,KINDRED	0.309
OTHER PROF,TECH,KINDRED	0.018
ACCOUNTANTS AND AUDITORS	0.018
TECH,EXC MEDICAL & DENTAL	0.491
COMPUTER PROGRAMMERS	0.491
SALES WORKERS	0.018
SALESMEN & S CLERKS NEC	0.018
CLERICAL & KINDRED	0.182
BANK TELLERS	0.018
CASHIERS	0.018
DISPATCHERS & STARTERS	0.018
SECRETARIES	0.018
SHIP & RECEIV CLRKS	0.018
STATISTICAL CLERKS	0.018
STOCK CLRKS & STOREKPRS	0.018
TYPISTS	0.036
OTHER CLERICAL	0.018
CRAFTSMEN & KINDRED	0.018
CONSTRUCTION CRAFTSMEN	0.018
CEMENT & CONCRETE FINISH	0.018
OPERATIVES & KINDRED	0.073
SEMISKILLED METALWRKNG	0.018
MACHINE TOOL OPERS	0.018
PRECISION MACHINE NEC	0.018
TRANSP & PUB UTIL OPER	0.018
TRUCK DRIVERS	0.018
SEWERS AND STITCHERS MFG	0.018
TEXTILE OPERATIVES	0.018
TEXTILE OPERATIVES,NEC	0.018
LABORERS,EXC FARM	0.055
MISC LABORERS	0.055
SERVICE WORKERS	0.018
CLEANING SERVICES	0.018
BOARD & LODGING KEEPRS	0.018

TABLE 2

PROGRAM: BUSINESS DATA PROCESSING

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	1.000
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
PROFESSIONAL,TECH,KINDRED	0.667
OTHER PROF,TECH,KINDRED	0.167
ACCOUNTANTS AND AUDITORS	0.167
TECH,EXC MEDICAL & DENTAL	0.500
COMPUTER PROGRAMMERS	0.500
CLERICAL & KINDRED	0.333
OTHER CLERICAL	0.333

TABLE 2

PROGRAM: BUSINESS DATA PROCESSING

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.045
FULL TIME COLLEGE	0.045
PART TIME COLLEGE	0.000
MILITARY	0.023
OTHER	0.045
PARTICIPATION RATE	0.841
UNEMPLOYMENT RATE	0.216
EMPLOYMENT TOTAL	0.784
MANAGERS,OFFICIALS,PROPR.	0.081
PROFESSIONAL,TECH,KINDRED	0.243
TECH,EXC MEDICAL & DENTAL	0.243
COMPUTER PROGRAMMERS	0.189
TECHNICIANS,OTHER	0.054
SALES WORKERS	0.027
SALESMEN & S CLERKS NEC	0.027
CLERICAL & KINDRED	0.351
BILLING CLERKS	0.054
BOOKKEEPERS,HAND	0.054
DISPATCHERS & STARTERS	0.027
EXPEDTERS & PROD CONTROL	0.027
MAIL HANDLERS,EXC P.O.	0.027
OFF MACH OPER NEC	0.054
PAYROLL CLERKS	0.027
RECEPTIONISTS	0.027
SECRETARIES	0.027
OTHER CLERICAL	0.027
CRAFTSMEN & KINDRED	0.027
OTHER CRAFTSMEN	0.027
CRAFTSMEN NEC	0.027
OPERATIVES & KINDRED	0.027
SEMISKILLED METALWRKNG	0.027
MISC METAL WORK OPER	0.027
LABORERS,EXC FARM	0.027
WAREHOUSEMEN,NEC	0.027

23. SECRETARIAL PROGRAMS

The Secretarial Programs, which include Secretarial Science, Secretarial Occupations, Shorthand and the Medical Secretary programs were offered at the Community Colleges and the Private Proprietary schools. A total of 170 usable returns were received from the Community College graduates and 327 from the Private Proprietary graduates. From both groups, about 93% entered the labor force and about 7% either continued their education or engaged in some other activity. Of those that did enter the labor force, only 1.3% of the Community College graduates were unemployed at the time of the survey. For the Private Proprietary school graduates, the unemployment rate was somewhat higher at 6.8%. In both cases, almost all of the graduates who were employed, were in the general occupational category--Clerical and Kindred. However, if it is assumed that only jobs as Secretaries, Typists, Stenographers and Office Machine Operators are directly related to these programs, then it can be seen from the accompanying tables that 86% of the Community College graduates found highly related jobs. For the Private Proprietary school graduates, the rate was 74%.

On the basis of these results, it appears that although the graduates from both postsecondary institutions are successful in finding related jobs, the Community College graduates appear to obtain related employment at a higher rate.

TABLE 2

PROGRAM: SECRETARIAL PROGRAMS

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.047
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.023
PARTICIPATION RATE	0.930
UNEMPLOYMENT RATE	0.013
EMPLOYMENT TOTAL	0.987
CLERICAL & KINDRED	0.975
BANK TELLERS	0.019
BILLING CLERKS	0.013
OFF MACH OPER NEC	0.019
SECRETARIES	0.623
STENOGRAPHERS	0.157
TYPISTS	0.063
OTHER CLERICAL	0.038

TABLE 2

PROGRAM: SECRETARIAL PROGRAMS

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.003
FULL TIME COLLEGE	0.003
PART TIME COLLEGE	0.000
MILITARY	0.003
OTHER	0.055
PARTICIPATION RATE	0.936
UNEMPLOYMENT RATE	0.068
EMPLOYMENT TOTAL	0.932
PROFESSIONAL,TECH,KINDRED	0.016
CLERICAL & KINDRED	0.883
BOOKKEEPERS,HAND	0.023
INS ADJTRS,EXAM & INVEST	0.013
RECEPTIONISTS	0.016
SECRETARIES	0.541
STENOGRAPHERS	0.124
TYPISTS	0.075
OTHER CLERICAL	0.049
OPERATIVES & KINDRED	0.013

24. BUSINESS ADMINISTRATION/MANAGEMENT PROGRAMS

The Business Administration/Management Programs were offered by all three types of postsecondary institutions. The usable returns upon which the results are based were:

Institution	Returns
Community Colleges	233
Pennsylvania State University	77
Private Proprietary Schools	184

As seen in the accompanying tables, about 30% of the graduates from the Community Colleges and The Pennsylvania State Campuses continued their education full-time. The data indicates that the about 14% of the graduates from the private schools continued their education full-time.

The unemployment rate for those graduates who did enter the labor force was 7.7% for the Community Colleges, 2% for The Pennsylvania State University Campuses and 14.1% for the Private Proprietary school graduates. Of those employed, about 43% of The Pennsylvania State University graduates, 33% of the Community College graduates and 22% of the Private Proprietary school graduates found jobs in the related occupations of Managers, Officials, and Proprietors and the Other Professional and Kindred area.

In general it appears that The Pennsylvania State University Commonwealth Campus graduates secure related employment at a rate higher than the other institutions.

TABLE 2

PROGRAM: BUSINESS ADM/MANAG. PROG.

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.013
FULL TIME COLLEGE	0.300
PART TIME COLLEGE	0.009
MILITARY	0.056
OTHER	0.009
PARTICIPATION RATE	0.614
UNEMPLOYMENT RATE	0.077
EMPLOYMENT TOTAL	0.923
MANAGERS,OFFICIALS,PROPR.	0.252
PROFESSIONAL,TECH,KINDRED	0.182
SOCIAL SCIENTISTS	0.028
OTHER SOCIAL SCIENTISTS	0.021
OTHER PROF,TECH,KINDRED	0.077
ACCOUNTANTS AND AUDITORS	0.028
PERSONNEL & LBR RELATIONS	0.021
PROF,TECH,KINDRED NEC	0.028
ENGINEERS TECHNICAL	0.028
OTHER ENGINEERS,TECHNICAL	0.021
TECH,EXC MEDICAL & DENTAL	0.042
COMPUTER PROGRAMMERS	0.014
TECHNICIANS,OTHER	0.021
SALES WORKERS	0.084
SALESMEN & S CLERKS NEC	0.077
CLERICAL & KINDRED	0.259
BILLING CLERKS	0.021
BOOKKEEPERS,HAND	0.028
INS ADJTRS,EXAM & INVEST	0.014
OFFICE MACHINE OPERATORS	0.196
SECRETARIES	0.035
STENOGRAPHERS	0.014
STOCK CLRKS & STOREKPRS	0.014
OTHER CLERICAL	0.070
CRAFTSMEN & KINDRED	0.035
OTHER CRAFTSMEN	0.028
CRAFTSMEN NEC	0.021
OPERATIVES & KINDRED	0.042
SEMISKILLED METALWRKNG	0.021
MISC METAL WORK OPER	0.014
SEMISKILLED TEXTILE	0.252
LABORERS,EXC FARM	0.042
CONSTRUCTION LABORERS	0.014
MISC LABORERS	0.021
SERVICE WORKERS	0.028
FOOD SERVICE WORKERS	0.014
PROTECTIVE SERVICE	0.014
POLICEMEN,DETECTIVES,ETC	0.014

TABLE 2

PROGRAM: BUSINESS ADM/MANAG. PROG.

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.013
FULL TIME COLLEGE	0.286
PART TIME COLLEGE	0.000
MILITARY	0.052
OTHER	0.013
PARTICIPATION RATE	0.636
UNEMPLOYMENT RATE	0.020
EMPLOYMENT TOTAL	0.980
MANAGERS,OFFICIALS,PROPR.	0.367
PROFESSIONAL,TECH,KINDRED	0.102
NATURAL SCIENTISTS	0.020
AGRICULTURAL SCIENTISTS	0.020
OTHER PROF,TECH,KINDRED	0.061
ACCOUNTANTS AND AUDITORS	0.041
PROF,TECH,KINDRED NEC	0.020
TECH,EXC MEDICAL & DENTAL	0.020
TECHNICIANS,OTHER	0.020
SALES WORKERS	0.143
SALESMEN & S CLERKS NEC	0.143
CLERICAL & KINDRED	0.245
BANK TELLERS	0.061
BILLING CLERKS	0.082
ESTIM & INVESTIGATORS	0.020
OFFICE MACHINE OPERATORS	0.286
OTHER CLERICAL	0.082
CRAFTSMEN & KINDRED	0.061
MECHANICS AND REPAIRMEN	0.020
OTHER MECHS & REPAIRMEN	0.020
PRINTING TRADES CRAFTS	0.020
COMPOS & TYPESETTERS	0.020
OTHER CRAFTSMEN	0.020
MOTION PICTURE PROJEC	0.020
OPERATIVES & KINDRED	0.020
SEMISKILLED METALWRKNG	0.020
WELDERS & FLAME CUTTRS	0.020
SEMISKILLED TEXTILE	0.367
LABORERS,EXC FARM	0.020
MISC LABORERS	0.020
SERVICE WORKERS	0.020
FOOD SERVICE WORKERS	0.020
WAITERS AND WAITRESSES	0.020

TABLE 2

PROGRAM: BUSINESS ADM/MANAG. PROG.

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.141
PART TIME COLLEGE	0.000
MILITARY	0.070
OTHER	0.022
PARTICIPATION RATE	0.768
UNEMPLOYMENT RATE	0.141
EMPLOYMENT TOTAL	0.859
MANAGERS,OFFICIALS,PROPR.	0.099
PROFESSIONAL,TECH,KINDRED	0.155
OTHER PROF,TECH,KINDRED	0.120
ACCOUNTANTS AND AUDITORS	0.120
OTHER MED & HEALTH WKRS	0.014
SALES WORKERS	0.056
ADVER AGENTS & SALESMEN	0.021
SALESMEN & S CLERKS NEC	0.035
CLERICAL & KINDRED	0.465
BANK TELLERS	0.028
BILLING CLERKS	0.120
BOOKKEEPERS,HAND	0.042
OFFICE MACHINE OPERATORS	0.838
RECEPTIONISTS	0.042
SECRETARIES	0.085
STENOGRAPHERS	0.014
TYPISTS	0.014
OTHER CLERICAL	0.063
CRAFTSMEN & KINDRED	0.042
CONSTRUCTION CRAFTSMEN	0.028
CARPENTERS	0.014
OTHER CRAFTSMEN	0.014
CRAFTSMEN NEC	0.014
OPERATIVES & KINDRED	0.021
SEMISKILLED TEXTILE	1.077
SERVICE WORKERS	0.014

25. CLERICAL, OTHER

Under this general heading are the two programs entitled "Clerical Occupations and Librarian Assistant." These programs were offered by the Community Colleges and the Private Proprietary schools. Because the enrollments in these programs are small, the number of returns was 23 from Community College graduates and 35 from Private Proprietary school graduates. Therefore, the results in the accompanying tables should be viewed with some reservation.

As can be seen in the accompanying tables, about 9% of the Community College graduates continued their educationand 13% never entered the labor force for some other reason. Perhaps this is due to the fact that most of the graduates were women and some female graduates do not enter the labor force because of marriage or some other reason. Of the 78% of the Community College graduates who did enter the labor force, 11% were unemployed at the time of the survey. By comparison, the Private Proprietary school graduates experienced a rate of 18%.

If it is assumed that all the jobs under the occupational category--Clerical and Kindred and Librarians are related to the program of study, then it can be said that 78% of the Community College graduates and 73% of the Proprietary School graduates found related work. This would indicate that the graduates from these institutions and programs were successful in gaining entry into related occupations.

TABLE 2

PROGRAM: CLERICAL, OTHER

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.087
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.130
PARTICIPATION RATE	0.783
UNEMPLOYMENT RATE	0.111
EMPLOYMENT TOTAL	0.889
PROFESSIONAL,TECH,KINDRED	0.222
OTHER PROF,TECH,KINDRED	0.167
LIBRARIANS	0.167
TECH,EXC MEDICAL & DENTAL	0.056
COMPUTER PROGRAMMERS	0.056
SALES WORKERS	0.056
SALESMEN & S CLERKS NEC	0.056
CLERICAL & KINDRED	0.611
CASHIERS	0.056
FILE CLERKS	0.056
LIBRARY ATTDS & ASSTS	0.167
SECRETARIES	0.111
TELEPHONE OPERATORS	0.056
TYPISTS	0.167

TABLE 2

PROGRAM: CLERICAL, OTHER

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.057
PARTICIPATION RATE	0.943
UNEMPLOYMENT RATE	0.182
EMPLOYMENT TOTAL	0.818
PROFESSIONAL,TECH,KINDRED	0.061
TECH,EXC MEDICAL & DENTAL	0.030
DESIGNERS	0.030
OTHER MED & HEALTH WKRS	0.030
HEALTH AIDES,EXC NURSE	0.030
CLERICAL & KINDRED	0.727
BILLING CLERKS	0.061
BOOKKEEPERS,HAND	0.030
FILE CLERKS	0.061
LIBRARY ATTDS & ASSTS	0.030
OFF MACH OPER NEC	0.030
PAYROLL CLERKS	0.030
SECRETARIES	0.152
STENOGRAPHERS	0.030
TYPISTS	0.121
OTHER CLERICAL	0.182
OPERATIVES & KINDRED	0.030
OTHER OPERATIVES	0.030
LAUNDRY & DRY CLEANING	0.030

26. APPAREL AND ACCESSORIES PROGRAM

This program was only offered by the Private Proprietary schools and therefore the following discussion will pertain only to those graduates. Of the 50 graduates who responded to the survey, 10% were in college, the military or not seeking employment. Of the 90% who did enter the labor force, 11% were unemployed and about 65% were employed in highly related occupations as salesmen or in the Managers, Officials and Proprietors category. Thus, about 24% found work unrelated to their program of study.

The data indicates that the graduates from this program appear to have been quite successful in finding work related to their previous program of study. It must be pointed out that although the graduates were successful in gaining related employment, 11% of the graduates were unemployed and another 24% found unrelated jobs.

TABLE 2

PROGRAM: APPAREL AND ACCESSARIES

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	1.000
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
MANAGERS,OFFICIALS,PROPR.	0.500
CRAFTSMEN & KINDRED	0.500
OTHER CRAFTSMEN	0.500
PATTERNMKRS	0.500

TABLE 2

PROGRAM: APPAREL AND ACCESSARIES

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.020
PART TIME COLLEGE	0.000
MILITARY	0.020
OTHER	0.060
PARTICIPATION RATE	0.900
UNEMPLOYMENT RATE	0.111
EMPLOYMENT TOTAL	0.889
MANAGERS,OFFICIALS,PROPR.	0.289
PROFESSIONAL,TECH,KINDRED	0.022
OTHER PROF,TECH,KINDRED	0.022
SOCIAL & WELFARE WORKERS	0.022
SALES WORKERS	0.378
ADVER AGENTS & SALESMEN	0.022
SALESMEN & S CLERKS NEC	0.356
CLERICAL & KINDRED	0.111
BOOKKEEPERS,HAND	0.022
SECRETARIES	0.022
STATISTICAL CLERKS	0.022
TELEPHONE OPERATORS	0.022
OTHER CLERICAL	0.022
CRAFTSMEN & KINDRED	0.022
OTHER CRAFTSMEN	0.022
DECOR & WINDOW DRESSERS	0.022
OPERATIVES & KINDRED	0.022
SEMISKILLED METALWRKNG	0.022
MACHINE TOOL OPERS	0.022
PRECISION MACHINE NEC	0.022
SERVICE WORKERS	0.044
FOOD SERVICE WORKERS	0.044
WAITERS AND WAITRESSES	0.044

27. MARKETING/RETAIL/FINANCE PROGRAM

This program was offered at the Community Colleges and the private proprietary schools. Because there were only 10 returns from the Private Proprietary school graduates, their results are not presented. Of the 46 graduates from the Community Colleges who responded, about 11% continued their education. Of the 85% who did enter the labor force, none were unemployed at the time of the survey.

If it is assumed that only jobs in the general categories--Sales Workers and Managers, Officials and Proprietors are directly related to this program, then it can be seen that about 49% of the graduates found related jobs. Thus, 51% of the graduates were employed in unrelated occupations.

This data indicates that this program in both institutions warrants some consideration in light of the large percentage of the graduates in unrelated occupations. Perhaps an indepth evaluation of this program would be in order.

TABLE 2

PROGRAM: MARKETING/RETAIL/FINANCE

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.109
PART TIME COLLEGE	0.000
MILITARY	0.022
OTHER	0.022
PARTICIPATION RATE	0.848
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
MANAGERS,OFFICIALS,PROPR.	0.231
PROFESSIONAL,TECH,KINDRED	0.051
TEACHERS	0.026
TEACHERS SECONDARY	0.026
OTHER PROF,TECH,KINDRED	0.026
ACCOUNTANTS AND AUDITORS	0.026
SALES WORKERS	0.256
ADVER AGENTS & SALESMEN	0.051
SALESMEN & S CLERKS NEC	0.205
CLERICAL & KINDRED	0.359
BILLING CLERKS	0.051
BOOKKEEPERS,HAND	0.026
COLLECTORS,BILL	0.026
DISPATCHERS & STARTERS	0.103
EXPEDTERS & PROD CONTROL	0.026
SECRETARIES	0.051
STOCK CLRKS & STOREKPRS	0.026
TELEPHONE OPERATORS	0.026
OTHER CLERICAL	0.026
CRAFTSMEN & KINDRED	0.026
MECHANICS AND REPAIRMEN	0.026
MOTOR VEHICLE MECHANICS	0.026
OPERATIVES & KINDRED	0.051
TRANSP & PUB UTIL OPER	0.026
DELIVERYMEN,ROUTEMEN	0.026
OTHER OPERATIVES	0.026
ASSEMBLERS	0.026
SERVICE WORKERS	0.026
FOOD SERVICE WORKERS	0.026
WAITERS AND WAITRESSES	0.026

TABLE 2

PROGRAM: MARKETING/RETAIL/FINANCE

POST SECONDARY SCHOOL: PRIVATE SCHOOLS

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.200
PART TIME COLLEGE	0.000
MILITARY	0.100
OTHER	0.100
PARTICIPATION RATE	0.600
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
MANAGERS,OFFICIALS,PROPR.	0.167
PROFESSIONAL,TECH,KINDRED	0.167
OTHER PROF,TECH,KINDRED	0.167
ACCOUNTANTS AND AUDITORS	0.167
CLERICAL & KINDRED	0.500
BOOKKEEPERS,HAND	0.333
OTHER CLERICAL	0.167
LABORERS,EXC FARM	0.167
MISC LABORERS	0.167

28. OTHER PROGRAMS

Under this general heading were the following programs:

a. Teacher Asst./Aides
b. Child Care/Guidance
c. Food Prod./Service
d. Institutional Home Management
e. Recreation/Tourism
f. Vocational Programs

These programs were only offered by the Community Colleges. A total of 165 usable returns were received from the graduates of these programs.

Because of the diverse nature of the programs, it is difficult to determine which jobs are related to the program of study. However, if it is assumed that the following are unrelated categories:

a. Craftsmen and Kindred
b. Operatives and Kindred
c. Clerical and Kindred
d. Laborers

Then, it can be seen that about 42% of the graduates found unrelated jobs. In addition, about 16% were unemployed at the time of the survey. In view of these results, it appears that in some of the above programs the supply was greater than the demand. It is therefore suggested that the Community Colleges review this program in the light of local labor market demands so that a determination can be made to an appropriate course of action to alleviate this imbalance.

TABLE 2

PROGRAM: OTHER PROGRAMS

POST SECONDARY SCHOOL: COMMUNITY COLLEGES

	PERCENT
NOT LOOKING	0.036
FULL TIME COLLEGE	0.418
PART TIME COLLEGE	0.018
MILITARY	0.055
OTHER	0.067
PARTICIPATION RATE	0.406
UNEMPLOYMENT RATE	0.164
EMPLOYMENT TOTAL	0.836
MANAGERS,OFFICIALS,PROPR.	0.149
PROFESSIONAL,TECH,KINDRED	0.090
MED.& OTHER HEALTH WKRS	0.015
DIET.& NUTRITIONISTS	0.015
TEACHERS	0.045
TEACHERS OTHER	0.045
OTHER PROF,TECH,KINDRED	0.015
SOCIAL & WELFARE WORKERS	0.015
TECH,EXC MEDICAL & DENTAL	0.015
DRAFTSMEN	0.015
SALES WORKERS	0.015
ADVER AGENTS & SALESMEN	0.015
CLERICAL & KINDRED	0.269
BANK TELLERS	0.015
CASHIERS	0.015
DISPATCHERS & STARTERS	0.015
EXPEDTERS & PROD CONTROL	0.015
FILE CLERKS	0.015
PAYROLL CLERKS	0.015
SECRETARIES	0.045
SHIP & RECEIV CLRKS	0.015
TEACHER AIDES	0.045
OTHER CLERICAL	0.075
CRAFTSMEN & KINDRED	0.060
CONSTRUCTION CRAFTSMEN	0.015
CARPENTERS	0.015
MECHANICS AND REPAIRMEN	0.015
OTHER MECHS & REPAIRMEN	0.015
OTHER CRAFTSMEN	0.030
PATTERNMKRS	0.015
CRAFTSMEN NEC	0.015
OPERATIVES & KINDRED	0.030
SEMISKILLED METALWRKNG	0.015
MACHINE TOOL OPERS	0.015
PRECISION MACHINE NEC	0.015
OTHER OPERATIVES	0.015
OPERATIVES NEC	0.015
LABORERS,EXC FARM	0.060
CARPENTERS' HELPERS	0.015
MISC LABORERS	0.045
SERVICE WORKERS	0.164
FOOD SERVICE WORKERS	0.075
BARTENDERS	0.015
COOKS	0.015
WAITERS AND WAITRESSES	0.015

FOOD SERVICE NEC	0.030
OTHER SERVICE WORKERS	0.090
ATTEND,RECRE & AMUS	0.015
CHILD CARE WORKERS	0.030
SCHOOL MONITORS	0.030
OTHER SERVICE WKRS	0.015

TABLE 2

PROGRAM: OTHER PROGRAMS

POST SECONDARY SCHOOL: PENN STATE BRANCH CAMPUSES

	PERCENT
NOT LOOKING	0.000
FULL TIME COLLEGE	0.000
PART TIME COLLEGE	0.000
MILITARY	0.000
OTHER	0.000
PARTICIPATION RATE	1.000
UNEMPLOYMENT RATE	0.000
EMPLOYMENT TOTAL	1.000
SERVICE WORKERS	1.000
OTHER SERVICE WORKERS	1.000
ATTEND,RECRE & AMUS	1.000

DISCUSSION

From this study, which was based on a follow-up survey of the 1971 graduates of the Community Colleges, The Pennsylvania State University Campuses and the Private Proprietary schools, it was found that there are some basic differences among the graduates of the three institutions. It appears that the three postsecondary institutions serve different populations. Although only the occupational or vocational program graduates were studied, The Pennsylvania State University Campuses have a larger percent of their graduates transfer to a baccalaureate degree program. The Community Colleges, on the other hand have 50% of their students in occupational programs (Sheppard, 1971). In contrast, the students in the Private Proprietary school programs are almost entirely trained for occupations.

Another major difference seen for the postsecondary institutions is the rate of unemployment. The University Campus graduates experienced the lowest rate of unemployment (median - 6.1%). The Community College graduates experienced a rate 1% higher. By contrast, the Private Proprietary school graduates had an unemployment rate almost double that of the other two postsecondary institutions.

Related findings were that the least successful programs in terms of the graduates being able to get jobs related to their previous training were: a) Forestry Technology; b) Business Administration/Management Programs; c) Apparel and Accessories Program; and d) Marketing/Retail/Finance Programs. The results for these four programs seem to indicate that the postsecondary institutions may not be planning their program offerings on the basis of available labor market information. Thus, it

is recommended that the postsecondary institutions develop a closer alliance with advisory committees from industry.

With the exception of the Civil Technology program, the technology program graduates, in general, also encountered difficulty in finding work related to their training. This is consistent with the national unemployment rate for technologists and engineers during 1971. However, findings on the technical program graduates studied show that many of the graduates found employment related to their training. These findings indicate that a viable job placement office in the postsecondary institutions could perform a valuable service in placing graduates in occupations related to their previous training.

BIBLIOGRAPHY

Alden, Vernon and Others, The Applachian Regional Commission Education Advisory Committee Interim Report. Applachian Regional Commission, Washington, D.C., June, 1968, 98.

Arnold, Walter M. (ed.). Vocational, Technical and Continuing Education in Pennsylvania: A Systems Approach to State-Local Program Planning. Harrisburg, Pennsylvania: Pennsylvania Department of Education, 1970.

Braden, P. V., Harris, J. L., and Paul, K. K. Occupational Training Information System. Oklahoma: Oklahoma State University, 1970.

Crum, Dwight. Implication for Planning Vocational Education Resources. American Vocational Journal, Vol. 46, pp. 26-29, April 1971.

Educational Systems Research Institute. Pennsylvania Occupational Graduates Follow-up Survey, Class of 71, Postsecondary Program Graduates, Pittsburgh, Pennsylvania, 1972.

Franchak, S. J. and Bruno, N. L. Planning Vocational Education Programs in Pennsylvania: Guidelines for the Use of Labor Market Information. Harrisburg, Pennsylvania: Pennsylvania Department of Education, 1971 (Revised).

Goldstein, Harold. America's Manpower Needs for the Seventies - Clues to the Tasks Ahead for Vocational Education. American Vocational Journal, Vol. 46, pp. 18-25, April 1971.

McKinley, B. and Johnson, L. E. Forecasting Occupational Supply: A Methodological Handbook. Technical Report Number 4. Manpower Research Project. State of Oregon: Department of Education, February 1969.

Prospects of Engineering and Technology Graduate, 1968. Engineering Joint Council, New York, N.Y.: Engineering Manpower Commission, Sept. 1968, 143.

Rosenthal, Neal H. and Others. College Educated Workers, 1968-80: A Study of Suppyy and Demand. Bureau of Labor Statistics (DOL). Washington, D.C.: Bulletin 1676, 1970, 28p.

Senier, John; Senier, Joanne; and Slick, James. A Supply/Demand Model for Vocational Education Planners: Report No. 1. University Park, Pennsylvania: Department of Vocational Education, The Pennsylvania State University, July 1972.

Sheppard, Robert L. Directory Listing Curriculums Offered in the Community Colleges of Pennsylvania. Harrisburg, Pennsylvania: Department of Education, 1971.

Stevenson, W. W. and Harris, J. L. Cycle Three Report: Occupational Training Information System. Oklahoma: Oklahoma State Department of Vocational and Technical Education, 1971.

Tuttle, F.; Braden, P.; and Shearer, J. OTIS Matches Manpower Supply and Demand, American Vocational Journal, Vol. 46, pp. 54-56, April 1971.

U. S. Department of Health, Education, and Welfare, Office of Education. Vocational Education and Occupations. Washington, D.C.: U. S. Government Printing Office, 1969.

U. S. Department of Labor. Dictionary of Occupational Titles, Third Edition, Volume I. Washington, D.C.: U. S. Government Printing Office, 1965.

U. S. Department of Labor, Bureau of Labor Statistics. Tomorrow's Manpower Needs: National Manpower Projections and a Guide to Their Use as a Tool in Developing State and Area Manpower Projections. Volume I. Washington, D.C.: U. S. Government Printing Office, 1969.

U. S. Department of Labor, Bureau of Labor Statistics. Occupational Manpower and Training Needs: Information for Planning Training Programs for the 1970's. Washington, D.C.: U. S. Government Printing Office, 1971.

APPENDICES

APPENDIX A

COURSE CODE LIST

PA. 1971 FOLLOW-UP POSTSEC. PROGRAMS

Code	Program
008	Automotive Body
009	Automotive Mech
011	Automotive Occup
012	Aircraft Airframe
013	Aircraft Maint.
015	Aircraft Occup
017	Office Mach Mnt/Rp
021	Commercial Art
027	Carpentry/Const
028	Electrical Const
029	Heavy Equip/Const
030	Masonry/Tile Set
033	Plumbing/Pupe Fit
042	Drafting Occup
050	Electronics Rad/TV
051	Electronics Occup
054	Industrial MGT
062	Graphic Arts
071	Machinist/Machine
074	Sheet Metal
075	Welding/Cutting
089	Police Training
090	Public Service Occ
125	Electri/Electron
142	Drafting Architect
144	Drafting Mechanic
150	Airline Careers
200	Engineering Tech
203	Arch Tech/Bldg Cst
204	Automotive Tech
205	Chemical Tech
206	Civil Technology
207	Electrical Tech
208	Electronics Tech
212	Instrumentation
213	Mechanical Tech
217	Scientif Data Proc
219	Architect Tech
220	Drafting/Desgn Tech
221	Tool/Die Design
222	Tool and Die Tech
224	Fire/Emergency Srv
225	Forestry Tech
229	Communications Occ

APPENDIX A

COURSE CODE LIST

PA. 1971 FOLLOW-UP POSTSEC. PROGRAMS

Code	Program
231	Quality Control
233	Data Process Equip
234	Data Proc Mach Op
235	Data Proc Equip Mt.
236	Data Proc Syst Ana
237	Data Proc Program
238	Data Proc Keypunch
240	Diesel Technology
253	Teacher Asst/Aide
265	Materials Technolo
298	Pre-Technology
300	Dental Assisting
301	Dental Hygiene
310	Medical Lab Tech
315	Nursing (Assoc Dg)
345	Med Records Tech
350	Occup Therapy Asst
355	Physical Therapy
363	Environmental Hlth
370	Mental Health Tech
380	Inhalation Therapy
383	Medical Assistant
500	Child Care/Guidance
502	Food Prod/Service
504	Institute/Home Mgt
700	Account/Bookkeeper
701	Business Data Proc
702	Clerical Occupations
705	Secretarial SC
706	Secretarial Occup
708	Shorthand
730	Medical Secretary
750	Business Administ
751	Business Management
760	Librarian
805	Apparel and Access
815	Credit/Finance/Bank
840	Marketing Sales
870	Recreation/Tourism
880	Marketing/Retail
999	Voc Occupations

APPENDIX B

POSTSECONDARY

COURSE CODE LIST USED IN SUPPLY/DEMAND MODEL

	PROGRAM	CODES INCLUDED
1.	Automotive Programs	008,009,011
2.	Aircraft Programs	012,013,015
3.	Electrical Programs	028,050,051,125
4.	Police Training	089
5.	Drafting Programs	142,144,042
6.	Welding/Cutting	075
7.	Technical, Other	017,021,027,029,030,033, 054,062,071,074,090,150
8.	Engineering Technology	200
9.	Automotive and Diesel Tech	204,213,240
10.	Civil Technology	206
11.	Electrical/Electronics Tech	207,208
12.	Drafting,Design Tech	220
13.	Architect Tech Programs	203,219
14.	Tool/Die Tech Programs	221,222
15.	Forestry Technology	225
16.	Technology, Other	205,212,224,265,229,231,298
17.	Data Processing Programs	233,234,235,236,237,238,217
18.	Dental Programs	300,301
19.	Nursing (Assoc. Dg.)	315
20.	Medical Programs, Other	310,350,355,363,370,380,383,345
21.	Accountants/Bookkeeper	700
22.	Business Data Processing	701
23.	Secretarial Programs	705,706,708,730
24.	Business Adm/Manag. Programs	750,751
25.	Clerical, Other	702,760
26.	Apparel and Accessories	805
27.	Marketing/Retail/Finance Programs	815,840,880
28.	Other Programs	253,500,502,504,870,999

APPENDIX C

SCHOOLS PARTICIPATING IN THE CLASS OF 1971 POSTSECONDARY FOLLOW-UP SURVEY

COMMUNITY COLLEGES

Allegh Co CC, Allegheny Campus
Allegh Co CC, Boyce Campus
Allegh Co CC, South Campus
Beaver County CC
Bucks County CC
Butler County CC
Delaware County CC
Harrisburg Area CC
Lehigh County CC
Luzerne County CC
Montgomery County CC
Northampton County Area CC
Philadelphia CC
Williamsport Area CC

PRIVATE PROPRIETARY SCHOOLS

Allentown Business School
Bethlehem Business School, Inc.
Cambria-Rowe Business College
Churchman Business College
Computer Systems Inst., Inc
Dean Inst of Technology, Inc.
DuBois Business College
Duff's Business Institute
Electronic Institutes, Pgh.
Erie Business Center, Inc.
Industrial Management Inst
Institute of Computer Management
Institute of Computer Science
Keystone Sec and Bus Adm Sch
Levitan School, Inc
McCann School of Business
New Castle Business College
New Kensington Commercial Sch.
Penn Technical Institute
Phila. School of Office Training
Pittsburgh Inst. of Aeronautics
Ryder Tech Inst., Allentown
Ryder Technical Inst., Philadelphia
Thompson Institute
Thompson Sch of Bus & Technol
Vale Technical Institute, Inc.
Wheeler School
Wilkes-Barre Business College
Williamsport Sch of Commerce

PENN STATE CAMPUSES

Allentown Center
Altoona Campus
Beaver Campus
Berks Campus
Delaware Campus
DuBois Campus
Fayette Campus
Hazleton Campus
McKeesport Campus
Mont Alto Campus
New Kensington Campus
Ogontz Campus
Schuylkill Campus
Shenango Valley Campus
Wilkes-Barre Center
Worthington-Scranton
York Campus

APPENDIX D

OCCUPATIONAL CLASSIFICATION AND STUDENT ENTRY

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
PROFESSIONAL, TECH, KINDRED	AGGREGATED
Med. & Other Health Wkrs.	AGGREGATED
Dentists	----------
Diet & Nutritionists	Dietary Supr.
Optometrists	----------
Osteopaths	----------
Pharmacists	----------
Physicians and Surgeons	----------
Psychologists	----------
Veterinarians	----------
Other Medical & Health	----------
Teachers	AGGREGATED
Teachers Elementary	----------
Teachers Secondary	----------
Teachers College	----------
Teachers Other	----------
Natural Scientists	AGGREGATED
Social Scientists	----------
Chemists	Chemist
Agricultural Scientists	Agriculturist
Biological Scientists	Environmntl Protct, Forest Tech
Geol & Geophysicists	----------
Physicists	----------
Other Natural Scientists	AGGREGATED
Economists	----------
Statisticians & Actuar.	Stat Control Spec., Statistician Data Clerk, Ins. Stat. Coder Statistical Clerk
Other Social Scientists	----------
Other Prof, Tech, Kindred	AGGREGATED
Accountants and Auditors	Accountant, Analyst Cost & Budget, Asst Accountant, Auditor, Bank Examiner, Chief Accountant, Cost Accountant, Jr Accountant Receiving Auditor, Assoc Accountant, Banking Field Train, Bkpr Accountant, Budget Analyst, Controller, Comptroller, Field Auditor, Gen Ledger Acct, Industrial Accnt, Internal Auditor, Med Account Supr, Night Auditor, Payroll Auditor, Sales Auditor, State Auditor

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
Pilots and Navigators	Corporate Pilot
Architects	----------
Clergymen	Youth for Christ Int
Designers	Design Drfts, Detailer, Engr Design Tech, Jr. Designer, Layout Artist, Mechanical Designer, Remodeling Tech Illustrator, Technical Illustr, Tool Designer
Editors and Reporters	Court Reporter, News Reporter, Reporter, Sports Writer
Lawyers and Judges	----------
Librarians	Librarian
Personnel & Lbr Relations	Client Coordinator, Personnel Mgmt Spec
Social & Welfare Workers	Asst Director, Counselor, Social Work
Teachers in Arts Entrmnt	----------
Prof, Tech, Kindred Nec	Admin Analyst, Financial Counselor, Health Admin, Manag Analyst, Plant Clerk, Comm ARtist, Communcatns Serv, Forest Patrolman, Production Supr, Spec Mrktg Rep, Staff Announcer, Supr Rech Dir Respty, Communications Spec, Dept Head, VP Site Development, Electronics Tech Wrtr, Regional Control Spec, Tech Writer, Utility Worker, Methods Analst
Engineering Technicians	AGGREGATED
Ag & Bio Tech, Exc Health	----------
Aeronautical	Aviation Tech, Aircraft Technician, Avionics Instl
Chemical	Chemical Techlgs
Civil	Environmntl Hlth Tch, Lab Analyst Lab Tech, Research Tech, County Maintenance, Assoc Engr, Asst Chief Surveys, Civil Engr Tech, Constr Engineer, Engineering Tech, Engr Tech II
Electrical	Alarm Technician, Application Engr., Appr Controlman Tech, Asst Electrical Tech, Bench Tech, Broadcast Engr, Coaxial Cable Linrtc, Communications Crft, Customer Engr, Design Engr Tech, Dist Tech Trainee, (cont'd.)

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
	Elec Design Engr, Elect Maint Engr, Electronics Tech, Engineer Tech, Engr Assoc, Field Engr, Illuminating Engr, Inspector, Instrumentation Tec, Jr. Technical Asst, Motor Inspector, ZC Engr, Radio Engr, RCA Technician, Relay Testor, Sec Systems Instal, Service Engineer, Sr Elect Tech, Switchman, Tech Electronic, Technical Aide, Terminal Module Test, Test Tech, Transmitter Tech, TV Bench Tech, TV Service Tech
Industrial	Asst Dir Ind Engr, Jr. Indus Eng.
Mathematical	---
Mechanical	Engineer Tech, Engr Aide, Foreman, Transmission Tech, Asst Products Engr, Contract Coord, Distr Tech, Engineer Aide, Engr, Engr's Helper, Field Engr, Manuftrg Engr, Product Engr, Quality Assur Tech, Tech Quality Control
Metallurgical	Metallurgist
Mining	---
Sales	Customer Service Rep, Engr Salesman, Field Representative, Municipal Repr, Sales & Service Engr, Service Rep, Tech Sales
Other Technicians	Electrical Tech, Lab Tech, Accoustic Lab Tech, Assistance Tech Trne, Asst Tech, Audiovisual Spec, Auto Service Tech, Broadcast Tech, Cable Tech, Chem Lab Tech, Color Separator, Computer Systems Tech, Const Right of Way, Converting Tech, Darkroom Tech, Data Proc Supr, Distr Tech Trnee, Elec Computer Tech, Electrical Estimator Engineering Asst, Engr Tech, Facilities Asst, Inventory Planner, Jr. Tech Asst, Lab Asst, Lab Tech, Maintenance, Making Seismographs, Motor Inspector, Prod Control Tech, Production Tech, Radio Brdcst Engr, Resource Consrv Aide, RF Tech, (cont'd.)

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
	Service Tech, Spec Mktg Proced Ana, Studio Tech, Systems Serviceman, Tech Prod Supr, Traffic Tech II, Transmission Tech, TV Engr, TV Tech, TV Tube Processor, Photo Tech, Service Tech, Technician
Tech, Exc Medical & Dental	AGGREGATED
Computer Programmers	Computer Oper, Jr Computer Program, Assoc Programmer, Computer Programmer, Controller In-Output, Data Analyst II, Digitizer, EDP Editor, Equip Oper, Frameman, Graphic Analyst, In-Output Cont trrnee, Modify Tech, Operations Resrch Tech, Peripheral Equip Oper, Programmer, Senior Comp Oper,
Draftsmen	Draftsman & Cook, Archit Draftsman, Asst Draftsman, Computer Draftsman Des Draftsman Tool-Die, Design Draftsman, Detail Draftsman, Drafting & Dsgn Tech, Draftsman, General Draftsman, Job Capt, Jr Draftsman, Mechanical Draftsman, Sr Draftsman, Structural Draftsman, Tech Illustrator
Photographers	Photographer
Radio Operators	---
Surveyors	Apprentice Surveyor, Chainman Surveyor, Engineering Aide I, Instrument Man Survyr, Levelman Trnee, Party Chief, Rodman, Survey & Enginrg, Surveying Instrument Man
Tool Programmers	Spec-Material Control, Time Study Tech
Technicians, Other	Technician, Assoc Designer, Asst Tech Eng, Cost Analyist, Engineering Tech, Field Engineer, Freight Engr Sub Assembler, Prod Enginrg Tech, Inspector, Instrument Tech, Testor Quality Contr, Quality Control Mgr, Assoc Engr, Engr Aide, Utility Man Second Class
Tech, Medical and Dental	AGGREGATED
Clinical Laboratory	---
Nurses, Professional	Asst Head Nurse, Charge Nurse, Graduate Nurse, Nurse Field Supr, Office Nurse, Psychiatric Nurse, R.N., Staff Nurse, Team Leader

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
Dental Laboratory	----------
Radiologic	----------
Health Tech & Tech Nec	Pharmacy Tech, Ophthalmic Med Asst, Psych Nurse Aide, Discharge Clerk, Med Records Clerk, Coding Clerk, Admissions Clerk, Chem Research Tech, Ekg Tech, Inhalation Tech, Lab Tech, Med Records Tech, Medical Asst, Research Tech, Respiratory Therapist, Surgical Tech
Other Med & Health Wkrs	AGGREGATED
Dental Assistants	Dental Assistant
Dental Hygienists	----------
Health Aides, Exc Nurse	----------
Nurse Aides & Attds	Nurse Aide
Practical Nurses Lic	Practical Nurse, LPN, Instructor, LPN, LON, Post Graduate
Therapy Assistants	Asst Rec Adm, Physical Therapy Asst
MANAGERS, OFFICIALS, PROPR.	AGGREGATED
SALES WORKERS	AGGREGATED
Adver Agents & Salesmen	Field Tech, Ins Agent, Sales Rep, Asst Buyer, Field Rep, Gen Power Rep, Service Rep, Travel Agent, Buyer Trainee, Business Rep
Demonstrators	----------
Salesmen & S Clerks Nec	Branch Rep, Casuals, Real Estate Salesman, Sales Clerk, Asst Buyer, Car Salesman, Carpet Salesman, Electronics Salesman, Ins Salesman, Retail Sales & Engraver, Trainee to Buyer, Whlse Rfgrig Salesman, Hostess & Gift Shop, Mens Clothing Spec, Merchandise Coord, Purchasing Agent, Sales Buyer Display, Service Salesman, Staff Asst,
CLERICAL & KINDRED	AGGREGATED
Bank Tellers	Bank Cashier, Banker, Teller, Utilities Teller
Billing Clerks	Account Adjuster, Acctg Clerk, Accts Payable, Asst Ledger Clerk, Audit Clerk, Biller, Billing Clerk, Claims Clerk, Clerk Accts Payable, Collection Dept, Cost Account, Credit Clerk, (cont'd.)

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
	Credit Dept, Gen Acctg Clerk, Gen Ledger Bank, Ins Billing Clerk, Manifest & Billing, New Account Clerk, Premium Audit Clerk, Property Acctg Clerk, Tax Acctg Clerk
Bookkeepers, Hand	Accts Payable Supr, Asst Bookkeeper, Bookkeeper, Bookkeeper & Laborer
Cashiers	Asst Cashier, Bank Asst Cashier, Cashier, Cod Stock Cashier
Clerical Assts	----------
Collectors, Bill	Collection Clerk, Tax Collector
Counter Clerks Exc Food	Counter Man, Liquor Store Clerk
Dispatchers & Starters	Asst Dispatcher, Dispatch Clerk, Dock Supr, Driver Clerk, Police Emer Dispatch, Schedule Maker
Enumerators	----------
Estimators & Invest	Claim Processor, Estimator, Tax Estimator, Title Clerk
Expediters & Prod Control	Unit Control Clk, Clerical Controller, Production Clerk, Control Clerk, Credit Authorizer, Expediter, Inventory Control, Jr Asst Price Control, Asst Production Control
File Clerks	Filing Clerk, Records Clerk
Health Record Clerks	----------
Ins Adjtrs, Exa, & Invest	Claims Processor, Ins Underwriter, Insurance, Rating Clerk, Tax Examiner, Title Clerk, Voucher Examiner, Insurance Agent, Insurance Rater, Adjuster
Library Attds & Assts	Page in Library, Elem Library Asst, Library Asst
Mail Carriers	----------
Mail Handlers, Exc P.O.	Mail Clerk
Office Machine Operators	AGGREGATED
Bkeeping & Bill Mach	Posting Oper, Bkpg Mach Oper
Calculating Mach	Comptometer Oper
Computer & Console Oper	Comp Operator
Duplicating Mach Oper	----------
Keypunch Operators	Keypunch Oper, Key Tape Oper, Keytaper
Tabulating Mach Oper	----------
Office Mach Oper Nec	Mach Oper, Brail Operator, Calculator Oper, Data Processing Clk, Data-Recorder Oper, EDP Oper, Elec Accnt Mach Oper, Flexowriter, IBM Coder, IBM Machine Oper, Invoice Clk Mach Op, Multility Oper, Sr Oper Off Services, 402 Oper, Some Secy

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
Payroll Clerks	Payroll Clerk, Ratesetter, Time Standards Clerk
Postal Clerks	----------
Proofreaders	Comparer-Prover, Proofreader
Receptionists	Clerk Recep, Receptionist, Receptionist-Secy
Secretaries	Accounting Secy, Accts Payable Secy, Admin Asst, Admin Secy, Clerk Secy Confidential Secy, Corresp Secy, Educational Secy, Engineering Secy, Exec Secy, Faculty Secy, Field Secy, Girl Friday, Inter Company Secy, Jr Secy, Legal Secy, Male Secy, Med Records Secy, Med Secy-Receptionist, Medical Secy, New Accts Secy, Personnel Secy, Private Secy, R & D Secy, Scientific Secy, Secy-Bookkeeper, Secy-Receptionist, Secretary, Service Asst, Sr Secy, Staff Asst
Ship & Receiv Clerks	Receiver, Sample Shpr, Receiving Clerk, Mdse Record, Ship & Recv Clerk, Shipper
Statistical Clerks	----------
Stenographers	Asst Court Reporter, Clerk Steno III, Court Reporter, Court Steno, Ct Report (Freelan) Legal Clerk Steno, Med Transcriber, Offic Shthand Rept, Secy-Steno, Steno Billing Clerk, Transcriptionist
Stock Clerks & Storekprs	Checker Stores, Storeroom Clk, Grocery Clk, Stock Clk, Storekeeper
Teacher Aides	Nursery School Asst, Asst Teacher, Day Care, Coord Instructor II, Instructor, Nursery School Teacher, Teacher, Training Instructor, Dist Educ Teacher, Stenotype Instructor
Telegraph Operators	Extra Telegrapher
Telephone Operators	Switchboard Oper, Dir Asst Oper, Telephone Oper
Ticket & Express Agents	Ticket Agent
Typists	Clerk Typist, Data Typist, Dictaphone Oper, Secy-Typist, Statistical Typist, Typist
Other Clerical	Admission Clerk, Attendance Asst, Charter Clerk, Check Sorter, Classified Ad Taker, Clerical, Clerk, Commercial Dept Clk, Control Clk, Credit Corres (cont'd.)

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
	Customer Serv Clk, Dairy Clk, Data Process Clk, Desk Clk, Detail Clk, Gen Off Clk, General Clk, Helper at Camp, Inventory Clk, Invoice Clk, Jr Clk, Jr Mill Clk, Kardex Clk, Messenger, Mgtmt Clk, Office Clk, Price Clk, Produce Clk, Sales Correspondent, Senior Clk, State Clk III, Tracing Clk, Warranty Clk
CRAFTSMEN & KINDRED	AGGREGATED
Construction Craftsmen	AGGREGATED
Boilermakers	----------
Brickmasons, etc.	Appr Mason, Bricklayer, Mason
Cabinetmakers	Cabinetmaker
Carpenters	----------
Cement & Concrete Finish	Cement Finisher, Mason Tender, Precast Stone Setter
Crane, Derreck & Hoistmen	Loader Oper, Craneman
Electricians	Appr Electrician, Elec Apprentice, Electrical Cont, Electrician, Industrial Elec, Maintenance Elec, Pilot Plant Elec, Plant Elec, Repairman (Electrical) 1st Class Ind Elec
Excavat, Grading Mach	Service Mech Hvy Eq, Operating Engr
Floor Layers	----------
Glaziers	----------
Inspectors, Construction	Construction Inspector
Painters	Int & Extr Painter, Painter, Work in Paint Room, Rack Coater
Paper Hangers	----------
Plasterers	Drywall Finisher
Plumbers & Pipefitters	Plumber, Pipefitter
Roofers and Slaters	Roofer
Stationary Engineers	----------
Structural Metalworkers	----------
Tile Setters	Tile Setter
Metalworking Craftsmen	AGGREGATED
Blacksmiths	----------
Forgemen & Hammermen	----------
Heat Treatrs & Annealrs	Caseman, Furnace Oper
Machinists & Related	Engine Machinist, Journeyman Machinist, Machine Appr
Millwrights	Millingman, Millworker
Molders, Metal	Molder for Teflon Co, Tube Bender, Mold Builder
Rollers & Roll Hands	----------

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
Sheet Metal Workers	Sheetmetal Worker, Metal Worker, Sheet Metalist
Tool & Diemakers	Die Setter, Diemaker, Parts Oper, Tool & Die Appr, Toolmaker, Const & Research Maint
Mechanics and Repairmen	AGGREGATED
Aircond, Heat & Refrig	Heat & Aircond Mech, Furnace Repair
Airplane Mech & Repair	A & P Mechanic, Aircraft Cleaner, Assemblyman, Chief of Maint, Cleaner, Component Test Mech, Equipment Mech, Final Assembly, Flight Line Mech, Gen Maintenance, Jet Engine Test Mech, Leadman, M G Mechanic, Maint Man, Mech, Mechanic Electrician, Shop Foreman (Maint), Steward-Mechanic, Super Shop & Line, Test Mech, Turbojet Test Mech.
Auto Body Repairmen	Auto Body Mech, Automotive Body Rpr, Body & Fender & Mech, Body-Fender Man, Bodyman, Car Reconditioning, Autobody Man
Motor Vehicle Mechanics	Apprentice, Auto Mechanic, Automobile Mech & Body, Chev Mech Trnee, Diesel Mech, Garage Mech, Mechanic, Partner, Truck Driver & Mech, 1st Class Diesel Mech, Motor Repairman, Truck Mech
Data Process Repairmen	----------
Farm Implement Repairmen	----------
Heavy Equip Mechs	Mechanic on Trucks, Diesel Mech, Mech Helper (Diesel), Mech Heavy Equip, Mechanic Consult
Household Appl Mechs	----------
Loom Fixers	----------
Office Machine Mechanics	Bench Mechanic
Radio & TV Mechanics	Installer, TV Repairman, Radio TV Repair
Rail & Car Shop Mechs	R. R. Signal Maint
Other Mechs & Repairmen	Utilityman 2nd Class, Appr Mech, Auto Aircond Spec, Flat Rate Mech, Insulation Mech, Machine Repairman, Maint Mech, Mech in Coal Mine, Mech Helper, Mechanic, Motor Mech, Repairman, Stereo Repairman, Truck Tire Fleet Ser, Elevator Mech, Equipment Installer, Installer Serviceman, Machine Maint, New Car Prep, Tel PBX Repairman, Optician, Car Porter, Fire & Safety (cont'd.)

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
	Insp, Human Services Aide, House Mother, Juvenile Officer, Pharmacy Helper, Porter, Youth Officer, Window Cleaner, Adm Analyst, Med Educ Fund Coord, Automotive Tech
Printing Trades Crafts	AGGREGATED
Bookbinders	----------
Compos & Typesetters	Multigraph Oper, Type Compositer
Electro & Sterotyprs	----------
Photoengrav & Lithograph	----------
Pressmen & Plate Print	Platemaker, Pressman, Printer
Other Craftsmen	AGGREGATED
Auto Accesory Install	Installer
Bakers	----------
Carpet Installers	----------
Decor & Window Dressers	Display Trimmer, Decorator, Display Asst
Elec Power Linemen	----------
Furn & Wood Finishers	----------
Jewelers and Watchmakers	----------
Locomotive Engineers	Fireman on R.R.
Locomotive Firemen	----------
Motion Picture Projec	Projectionist
Otions, Lens Grinders	----------
Patternmakers	Appr Patternmaker, Asst Patternmaker, Plastics Molder
Power Station Operators	----------
Shoe Repairmen	----------
Stone Cutters	----------
Tailors, Factory	----------
Telephone Installers	Installer, Telephone Installer
Telephone Lineman	Journeyman Lineman, Line Elec, Lineman, Switchman (Tele) Telephone Lineman
Upholsterers	----------
Craftsmen Nec	Asst Shop Foreman, Glass Inspector, Ind Maint, Logging Supr, Lumber Insp, Maint, Motor Sweeper, New Car Preparer, Nuclear Prosser, Paneling Insp, Plant Foreman, Platform Finisher, Prod Dept Supr, Production Foreman, R. R. Yardman, Supervisor, Yard Foreman, Foreman, Kiln Aux Tender, Plant Maint, Product Supr, Radiation Worker
OPERATIVES & KINDRED	AGGREGATED
Construction Operatives	AGGREGATED
Asbestos & Insulation	Insulation Maker

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
Blasters and Powdermen	----------
Drillers, Earth	----------
Oilers & Greasers	Oiler
Riveters and Fasteners	----------
Sawyers	----------
Construction Oper Nec	Leadman-House Bldg, Elec Const, Frameman, Overhead Crane Oper, Steelworker, Logger, Electrician's Helper, Construction Worker, Labor Craneman, Masonry Labor, Operator, Painter Helper
Semi Skilled Metalworking	AGGREGATED
Checkers, Exam & Insps	----------
Cutting Operatives	Card Cutter, Coil Slitter Oper, Slitter Oper
Flrs, Polishers, Sndrs	Tool Dresser
Furnacemen, Smeltermen	----------
Heaters, Metal	----------
Electroplaters	----------
Machine Tool Opers	AGGREGATED
Drill Press	Drill Press Oper
Grinding Machine	Grinder, Hand Grinder, Tool & Gage Grinder
Lathe and Mill Machine	Tracer Lathe Oper
Precision Machine Nec	Machine Oper, Operator 2nd Class, Plastic Mach Oper
Punch & Stmping Press	Cold Nut Former
Solderers	----------
Welders & Flame Cutters	Dyna Cutter, Tacker for Fitter, Auto Cutter Oper, Certified Welder, Cutter, Intermediate Welder, Layout Welder, Tacker 1st Class, Welder, Welding Tech
Misc Metal Work Oper	Auto Mach Loader, Set Up Man, Yard Hooker, Fabricator, Die Clng & Mtg, Iron Worker, Machine Shop, Ironworker
Transp & Pub Util Oper	AGGREGATED
Bus Drivers	----------
Deliverymen, Routemen	Route Salesman, Furniture Delivery Milkman
Fork Lift & Tow Motor	Fork Lift Oper, Fork Lift Driver
Mirmen: Mine, Fcty	----------
Taxi Drivers & Chauf	----------
Truck Drivers	Truck Driver
Trans Equip Oper Nec	Equipment Oper, Crane Helper, Heavy Equip Oper, HWY Equip Oper
Semiskilled Textile	AGGREGATED
Dressmakers & Seamstresses	Seamstress
Dyers	----------
Packers & Wrappers, Nec	----------
Sewers & Stichers Mfg	Sewing Machine Oper

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
Textile Operatives	AGGREGATED
Carding, Lapping & Comb	----------
Knitters, Loopers	----------
Spinners, Textile	----------
Weavers, Textile	----------
Textile Operatives, Nec	Cloth Examiner, Mill Worker
Other Operatives	AGGREGATED
Assemblers	Assembler, Furniture Assembler, Hand Assembler, Light Assembly, Test Stand Assembler, Wire Lamps
Bottling & Canning	----------
Laundry & Dry Cleaning	Presser
Meat Wrappers	----------
Meat Cutters, Mfg	Meat Cutter
Meat Wrappers, Retail Trade	----------
Milliners	----------
Mine Operatives	Appren Miner, Coal Miner
Mixing Operatives	Dough Cutter
Painters, Mfg	----------
Photo Process Wkrs	----------
Operatives, Nec	Dishwasher, Factory Wkr, Glass Cutter, Insole Cutter, Meter Reader, Mineral Weigher, Paint Stripper, Paper Mill Wkr, Production, Sawmill Helper, Set Up Man, Fueler (Aircraft)
LABORERS, EXC FARM	AGGREGATED
Animal Caretakers	Asst Dog Trainer, Kennel Attnd
Carpenters' Helpers	Carpenter's Helper, Handiman, Lumbering & Carpentry, Carpenter Laborer
Construction Laborers	----------
Freight Handlers	Prod Worker
Gardeners & Groundkeepers	Landscape Laborer
Horti & Floriculturist	Horticultural Super
Nurserymen	Nurseryman, Tree Trimmer
Stockhandlers	Aircraft Parts Clk, Material Storer, Parts Clk, Truck Parts Man
Teamsters	----------
Warehousemen, Nec	Head Shpg & Recv, Laborer Warehouse, Maintenance Man, Merch Co Warehouseman, Warehouseman Car Wash Boy, Collector Laborer, Electrical Helper, Engr Laborer, Factory Worker, Garage Helper, Helper, Laborer, Maintenance Laborer, Material Handler, Miner Helper, Plant Laborer, Production Laborer, Shop Hand, Steel Worker, Trashman, Yardman

APPENDIX D (cont'd.)

OCCUPATIONAL CLASSIFICATION	STUDENT ENTRY
FARMERS & FARM MANAGERS	AGGREGATED
Farmers	Dairy Farmer, Farmer
Farm Management Advisors	----------
Farm Managers	Farm Managers
FARM LABORERS & FOREMEN	AGGREGATED
Farm Foremen	----------
Farm Laborers, Unpaid	----------
Farm Laborers, Wage	Hired Man
Farm Laborers, Self-Emp	----------
SERVICE WORKERS	AGGREGATED
Cleaning Services	AGGREGATED
Board & Lodging Keepers	Head Houseman, Motel Desk Clerk
Chambermaid and Maids	----------
Charwomen & Cleaners	Housekeeper at Hospital
Janitors and Sextons	Custodian, Janitor
Food Service Workers	AGGREGATED
Bartenders	Bartenders
Cooks	Asst Cook, Cook, Short Order Cook
Fountain Workers	----------
Waiters & Waitresses	Formal Waitress, Waiter, Waitress
Food Service Nec	Catering Helper, Cafeteria Work, Food Service Supr, Kitchen Helper
Other Service Workers	AGGREGATED
Airplane Stewardesses	----------
Attend, Recre & Amus	Recreation Aide, Youth Phys Dir
Attendents Nec	Station Attend
Barbers	----------
Child Care Workers	Lead Nursery Teacher, Group Supr, Nursery School Teacher, Child Care Aide I
Hairdressers	----------
School Monitors	Instructional Asst, Teaching Asst
Welfare Service Aides	----------
Other Service Workers	----------
Protective Service	AGGREGATED
Crossing Guards	----------
Firemen	Fire Captain, Firefighter, Platoon Chief, Fireman
Guards, Watchmen	Security Guard
Policemen, Detectives, etc	Cadet Police, Policewoman, Trooper, Asst Chief of Police, Chief East Deer Twp, Cpl Hbg Police Dept, Detective, Enforcement Offr. I, Federal Security Sp, Plainclothes Detective, Police Capt, Sgt Police, Special Agent

HIGHER EL CATION
FOLLOW-UP CAREER SURVEY

- PLEASE ANSWER ALL QUESTIONS T...T APPLY TO YOU
- ALL ANSWERS ARE STRICTLY CONFIDENTIAL
- ERASE MARK COMPLETELY IF YOU WANT TO CH...GE ANSWER
- RETURN QUESTIONNAIRE IN POSTAGE PAID ENVELOPE

A. YOUR PRESENT STATUS

1. PLEASE MARK YOUR PRESENT STATUS. MARK ONLY 1 BOX PER COLUMN AS IT APPLIES TO YOU. THANK YOU.

- Employed full-time
- Employed part-time
- Unemployed, looking for work
- Unemployed, not looking for work
- Military service
- Homemaker, full-time
- Status other than above
  - College/School full-time
  - College/School part-time

B. ABOUT COLLEGE/SCHOOL PERIOD

2. DID YOU COMPLETE THE PROGRAM SHOWN TO THE RIGHT OF YOUR NAME?

- Yes
- No, terminated before completing
- Never took that program/course
- Took ▶ _____

3. WHAT FACTORS DETERMINED YOUR CHOICE OF COLLEGE OR SCHOOL? (Please mark all that apply)

- Reputation of school
  - Relatively low cost
    - Proximity to home
- Could keep present job
  - Offered special program
    - Parents advised it
- Alternative to preferred school
  - Advised by H.S. Counselor
    - Only local school available
- Other than above (explain)

▶ _____

4. WERE YOU EMPLOYED DURING THE PERIOD YOU ATTENDED THE SCHOOL?

- No ▶ SKIP TO QUES. 6
- About 25% of period in school
- About 50% of period in school
- About 75% of period in school
- Almost 100% of period in school

5. WHEN YOU WERE EMPLOYED, HOW MANY HOURS PER WEEK DID YOU WORK ON THE AVERAGE?

- 1 – 15 hours
- 16 – 30 hours
- Over 30 hours

C. THOSE STILL IN COLLEGE or SCHOOL

6. WHAT TYPE COLLEGE OR SCHOOL ARE YOU NOW ATTENDING? • IS IT IN STATE OR OUT OF STATE? • DO YOU LIVE AT HOME OR AT SCHOOL? • ARE YOUR PRESENT STUDIES RELATED TO THE PROGRAM INDICATED AT FAR RIGHT?

- Community College
- Private 2 yr. College
- State Coll. (Branch C)
- State Coll. (Main C)
- Private 4 yr. College
- Private Business Inst.
- Private Technical Inst.
- Area Vo-Tech School
- Other (explain)

▶ _____

- LOCATION?
  - Instate
  - Out of state
- RESIDENCE?
  - At home
  - At school
- RELATION?
  - Related
  - Unrelated

7. IF NOW ATTENDING COLLEGE/UNIVERSITY, WHAT IS YOUR CAREER FIELD OF STUDY?

- No specific career field
- Education
- Business
- Engineering
- Physical Science
- Social Science
- Biological Science
- Medicine
- Technology
- Law
- Finance/Econ.
- Fine Arts
- Health
- Humanities
- Computer Science
- Communications
- Other (specify)

▶ _____

8. IF NOW ATTENDING COLLEGE/UNIVERSITY, DO YOU PLAN TO ATTEND GRADUATE SCHOOL?

- No
- Yes
- Undecided

D. THOSE FULL-TIME EMPLOYED

9. WHERE ARE YOU NOW EMPLOYED?

- In Pennsylvania
- Out of Pennsylvania

10. IN WHAT RANGE DOES YOUR MONTHLY GROSS (BEFORE DEDUCTIONS) SALARY FALL?

- Less than $500
- 500 – 549
- 550 – 599
- 600 – 649
- 650 – 699
- 700 – 749
- 750 – 799
- 800 – 849
- 850 – 899
- 900 – 949
- 950 – 999
- over $1000

11. UPON COMPLETING COLLEGE/SCHOOL DID YOU WANT EMPLOYMENT IN YOUR FIELD OF STUDY?

- Yes
- No

12. WHAT METHODS DID YOU USE TO TRY TO GET EMPLOYMENT AFTER SCHOOL? (Please mark all methods used)

- Answered help want ads
  - Wrote letters to employers
    - Made telephone inquiries
- Used state employment agency
  - Used private employment agency
    - Placed ad in paper
- Got leads from school placement
  - Leads from friends/relatives
    - Other thru above (describe)

▶ _____

13. WHAT IS YOUR PRESENT JOB TITLE?

▶ _____

14. HOW RELATED IS YOUR PRESENT JOB TO YOUR FIELD OF STUDY (AT RIGHT)?

- Same field
- Highly related
- Slightly related
- Completely unrelated

} SKIP TO QUES. 16

} GO TO QUES. 15

15. WHAT WAS MAIN REASON FOR NOT GETTING PRESENT JOB IN FIELD OF STUDY? (Please mark one only)

- Never really planned to do so
- Tried, but could not find job in field
- Did not feel I learned enough
- Decided I did not like the work
- Too little opportunity for advancement
- Developed new career interest
- Better job opportunity came along
- Other reason (Please explain)

▶ _____

16. HOW WELL DID YOUR RECENTLY COMPLETED OCCUPATIONAL PROGRAM PREPARE YOU FOR YOUR PRESENT JOB?

- Excellent preparation for present job
- Good preparation
- Fair preparation only
- Poor preparation for present job

PLEASE DON'T MARK AREA BELOW

SPECIMEN

CURRICULUM/MAJOR TITLE		SCHOOL	
		PROGRAM	
		SEX	
CODE		UNIT	
W		STUDENT ID	

THANK YOU!

DO NOT MARK IN THIS AREA PLEASE

SAMPLE: FOLLOW-UP SURVEY FORM

APPENDIX E

APPENDIX F

OCCUPATIONAL TITLES

1. MANAGERS, OFFICIALS AND PROPRIETORS
2. PROFESSIONAL, TECHNICAL, KINDRED
3. Medical and Other Health Workers
4. Dentists
5. Dieticians and Nutritionists
6. Optometrists
7. Osteopaths
8. Pharmacists
9. Physicians and Surgeons
10. Psychologists
11. Veterinarians
12. Other Medical and Health
13. Teachers
14. Teachers - Elementary
15. Teachers - Secondary
16. Teachers - College
17. Teachers - Other
18. Natural Scientists
19. Social Scientists
20. Chemists
21. Agricultural Scientists
22. Biological Scientists
23. Geologists and Geophysicists
24. Mathematicians
25. Physicists
26. Other Natural Scientists
27. Economists
28. Statisticians and Actuaries
29. Other Social Scientists
30. Other Professional, Technical, Kindred
31. Accountants and Auditors
32. Pilots and Navigators
33. Architects
34. Clergymen
35. Designers
36. Editors and Reporters
37. Lawyers and Judges
38. Librarians
39. Personnel and Labor Relations
40. Social and Welfare Workers
41. Teachers in Arts Entertainment
42. Professional, Technical, Kindred, NEC
43. Engineers Technical
44. Agriculture and Biological Technicians, except Health
45. Engineers - Aeronautical
46. Engineers - Chemical
47. Engineers - Civil

APPENDIX F (cont'd.)

48. Engineers - Electrical
49. Engineers - Industrial
50. Mathematical
51. Engineers - Mechanical
52. Engineers - Metallurgical
53. Engineers - Mining
54. Sales
55. Other Engineers - Technical
56. Technicians - except Medical and Dental
57. Computer Programmers
58. Designers
59. Draftsmen
60. Photographers
61. Radio Operators
62. Surveyors
63. Tool Programmers
64. Technicians Other
65. Technicians - Medical and Dental
66. Clinical Laboratory
67. Nurses - Professional
68. Dental Laboratory
69. Radiologic
70. Health Technologists and Technicians, NEC
71. Other Medical and Health Workers
72. Dental Assistants
73. Dental Hygienists
74. Health Aides, except Nurses
75. Nurse Aides and Attendants
76. Practical Nurses, Licensed
77. Therapy Assistants
78. SALES WORKERS
79. Advertising Agents and Salesmen
80. Demonstrators
81. Salesmen and Sales Clerks, NEC
82. CLERICAL AND KINDRED
83. Bank Tellers
84. Billing Clerks
85. Bookkeepers, Hand
86. Cashiers
87. Clerical Assistants
88. Collectors, Billers
89. Counter Clerks, except Food
90. Dispatchers and Starters
91. Enumerators
92. Estimators and Investigators
93. Expeditors and Produce Control
94. File Clerks
95. Health Record Clerks

APPENDIX F (cont'd.)

96. Insurance Adjusters, Examiners and Ingestigators
97. Library Attendants and Assistants
98. Mail Carriers
99. Mail Handlers, except Post Office
100. Office Machine Operators
101. Bookkeeping and Billing Machines
102. Calculating Machines
103. Computer and Console Operator
104. Duplicating Machine Operator
105. Keypunch Operators
106. Tabulating Machine Operator
107. Office Machine Operator, NEC
108. Payroll Clerks
109. Postal Clerks
110. Proofreaders
111. Receptionists
112. Secretaries
113. Shipping and Receiving Clerks
114. Statistical Clerks
115. Stenographers
116. Stock Clerks and Storekeepers
117. Teacher Aides
118. Telegraph Operators
119. Telephone Operators
120. Ticket and Express Agents
121. Typists
122. Other Clerical
123. CRAFTSMEN AND KINDRED
124. Construction Craftsmen
125. Boilermakers
126. Brickmasons, etc.
127. Cabinetmakers
128. Carpenters
129. Cement and Concrete Finish
130. Crane, Derrick, Hoistmen
131. Electricians
132. Excavating, Grading Machine
133. Floor Layers
134. Glaziers
135. Inspectors, Construction
136. Painters
137. Paperhangers
138. Plasterers
139. Plumbers and Pipefitters
140. Roofers and Slaters
141. Stationary Engineers
142. Structural Metalworkers
143. Tile Setters
144. Metalworking Craftsmen

APPENDIX F (cont'd.)

145. Blacksmiths
146. Forgemen and Hammermen
147. Heat Treaters and Annealers
148. Machinists and Related
149. Millwrights
150. Molders, Metal
151. Rollers and Roll Hands
152. Sheet Metal Workers
153. Tool and Diemakers
154. Mechanics and Repairmen
155. Airconditioning, Heating and Refrigeration
156. Airplane Mechanics and Repairmen
157. Auto Body Repairmen
158. Motor Vehicle Mechanics
159. Data Processing Repairmen
160. Farm Implement Repairmen
161. Heavy Equipment Mechanics
162. Household Appliance Mechanics
163. Loom Fixers
164. Office Machine Mechanics
165. Radio and TV Mechanics
166. Rail and Car Shop Mechanics
167. Other Mechanics and Repairmen
168. Printing Trades Crafts
169. Bookbinders
170. Compositors and Typesetters
171. Electro and Stereotypers
172. Photoengravers and Lithographers
173. Pressmen and Plate Printers
174. Other Craftsmen
175. Auto Accessory Installation
176. Bakers
177. Carpet Installers
178. Decorators and Window Dressers
179. Electric Power Linemen
180. Furniture and Wood Finishers
181. Jewlers and Watchmakers
182. Locomotive Engineers
183. Locomotive Firemen
184. Motion Picture Projectionists
185. Opticians, Lens Grinders
186. Patternmakers
187. Power Station Operators
188. Shoe Repairmen
189. Stone Cutters
190. Tailors, Factory
191. Telephone Installers
192. Telephone Linemen

APPENDIX F (cont'd.)

193. Upholsterers
194. Craftsmen, NEC
195. OPERATIVE AND KINDRED
196. Construction Operatives
197. Asbestos and Insulation
198. Blasters and Powdermen
199. Drillers, Earth
200. Oilers and Greasers
201. Riveters and Fasteners
202. Sawyers
203. Construction Operatives, NEC
204. Semiskilled Metalworking
205. Checkers, Examiners and Inspectors
206. Cutting Operatives
207. Fillers, Polishers, Sanders
208. Furnacemen, Smeltermen
209. Heaters, Metal
210. Electroplaters
211. Machine Tool Operators
212. Drill Press
213. Grinding Machine
214. Lathe and Milling Machine
215. Precision Machine, NEC
216. Punch and Stamping Press
217. Solderers
218. Welders and Flame Cutters
219. Miscellaneous Metal Work Operatives
220. Transportation and Public Utility Operatives
221. Bus Drivers
222. Deliverymen, Routemen
223. Forklift and Tow Motor
224. Motormen - Mine, Factory
225. Taxi Drivers and Chauffeurs
226. Truck Drivers
227. Transportation Equipment Operators, NEC
228. Semiskilled Textile
229. Dressmakers and Seamstress
230. Dyers
231. Packers and Wrappers, NEC
232. Sewers and Stitchers Manufacturing
233. Textile Operatives
234. Carding, Lapping and Combing
235. Knitters, Loopers
236. Spinners, Textile
237. Weavers, Textile
238. Textile Operatives, NEC
239. Other Operatives
240. Assemblers

APPENDIX F (cont'd.)

241. Bottling and Canning
242. Laundry and Dry Cleaning
243. Meat Wrappers
244. Meat Cutters, Manufacturing
245. Meat Wrappers, Retail Trade
246. Milliners
247. Mine Operatives
248. Mixing Operatives
249. Painters, Manufacturing
250. Photo Processing Workers
251. Operatives, NEC
252. LABORERS, EXCEPT FARM
253. Animal Caretakers
254. Carpenters' Helpers
255. Construction Laborers
256. Freight Handlers
257. Gardners and Groundskeepers
258. Horticulture and Floriculturist
259. Nurserymen
260. Stockhandlers
261. Teamsters
262. Warehousemen, NEC
263. Miscellaneous Laborers
264. FARMERS AND FARM MANAGERS
265. Farmers
266. Farm Management Advisors
267. Farm Managers
268. FARM LABORERS AND FOREMEN
269. Farm Foremen
270. Farm Laborers, Unpaid
271. Farm Laborers, Wage
272. Farm Laborers, Self-Employment
273. SERVICE WORKERS
274. Cleaning Services
275. Board and Lodging Keepers
276. Chambermaids and Maids
277. Charwomen and Cleaners
278. Janitors and Sextons
279. Food Service Workers
280. Bartenders
281. Cooks
282. Fountain Workers
283. Waiters and Waitresses
284. Food Service, NEC
285. Other Service Workers
286. Airplane Stewardesses
287. Attendants, Recreation and Amusement
288. Attendants, NEC
289. Barbers

APPENDIX F (cont'd.)

290. Child Care Workers
291. Hairdressers
292. School Monitors
293. Welfare Service Aides
294. Other Service Workers
295. Protective Service
296. Crossing Guards
297. Firemen
298. Guards, Watchmen
299. Policemen, Detectives, Etc.